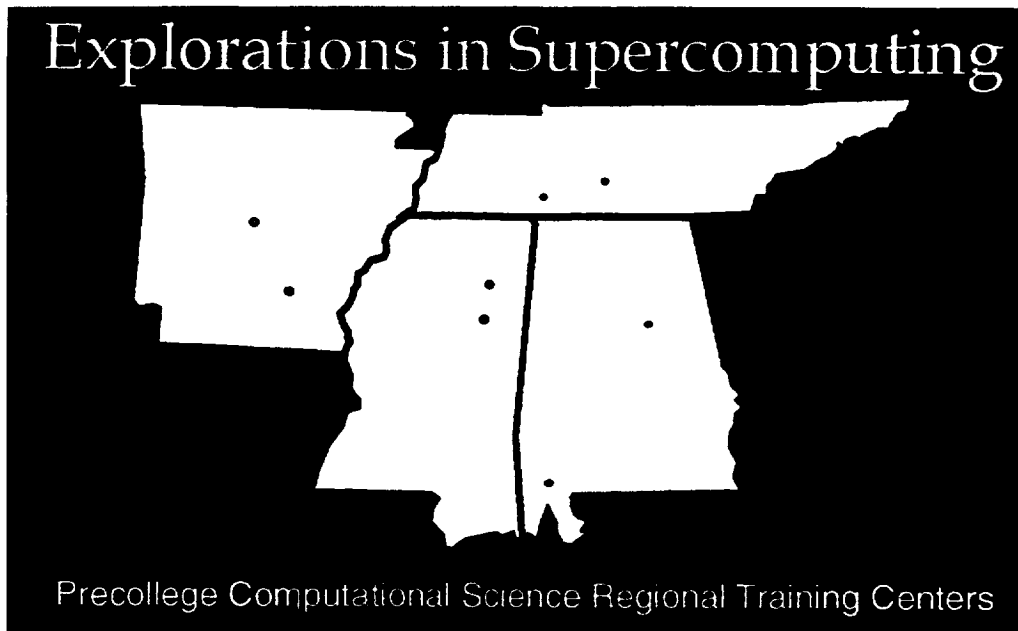


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NASA Grant NAG 8-987

Final Report

Submitted by:

The University of Alabama in Huntsville

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Explorations in Supercomputing (EiS)

Final Report

INTRODUCTION

The Explorations in Supercomputing (EiS) program was designed to promote excellence in America's precollege educational system through enhancing and expanding the interest and competence of educators and students in science and mathematics through hands-on experience in High Performance Computing and Communications

The University of Alabama in Huntsville (UAH) was awarded grant NAG 8-987 by the National Aeronautics and Space Administration (NASA) on August 1, 1993, and the grant expired on October 10, 1995. The purpose of the grant was to enhance the teaching of precollege science and mathematics through the use of computational science as a teaching mechanism. The states of Alabama, Mississippi, Tennessee, and Arkansas were the states involved in the program. The EiS program provided training, technical and curricular support, and equipment for a model computing environment in each school. Teachers were trained in intensive summer teacher training workshops, fall and spring follow-up workshops were held, technical support was provided, school visits were conducted, and equipment was provided in order to enhance school's computing environment and enable them to independently conduct teacher training workshops. The program was designed to have two Regional Training Centers (RTCs) in each state where teachers from other schools in their region could be trained or introduced to the use of computational science in their classroom. The EiS program has successfully promoted excellence in the schools served by the program and has made an outstanding impact on the communities directly served by these schools and other teachers and schools systems served by the Regional Training Center activities. This is evidenced by the fact that the schools involved in EiS have continued their teaching and outreach roles even though the program has ended.

EiS ACTIVITIES

Activities of the EiS program were designed to improve the computer expertise and scientific knowledge of teachers and students through education, training, and curriculum materials. A computing environment to support computing education for both students and teachers was provided in the selected schools. Schools in Alabama, Tennessee, Mississippi, and Arkansas were designated as Regional Training Centers (RTCs) to bring knowledge of HPCC technology, particularly computational science and engineering, to other schools in these states. The three main goals of the EiS program were:

- 1) Increase the nation's scientific and technical talent pool;
- 2) Reinforce and improve the teaching of mathematics, science, and computing (computational science) in K-12 schools by giving teachers additional training, hands-on experience, resources, and applications in high performance computing and communications; and,
- 3) Improve mathematics, science, computing, and Internet literacy.

In an effort to achieve these goals, the EiS program activities were concentrated in four main categories of activities - teacher training, improvement of the computing environment, curriculum materials, and follow-up support. The following is a description of the activities over the three year life of the contract.

EiS Activities June 1993 - May 1994

Teacher Training

Selection of Teachers

Working collaboratively with each state's Department of Education, and the Tri-State Education Consortium, teachers from 9 schools were identified to attend the first two week introductory teacher training institute. The 9 schools represented 2 schools in Alabama, 2 schools in Tennessee, and 5 schools in Mississippi. The goal was to have two schools from each state attend the summer training and then become the Regional Training Centers for each state. The Mississippi RTC sites chose to have teachers from different schools within the district attend the institute to better support the RTC and the Tri-State Education Consortium.

1993 Summer Institute

The first two week introductory teacher training institute was held at UAH in August 1993. The following teachers from Alabama, Tennessee, and Mississippi attended the workshop:

- Ed Settle, Biggersville High School, Corinth, MS
- Steve Cain, Belmont High School, Belmont, MS
- Bobby Lowery, Tishomingo High School, Iuka, MS
- Bonnie Jones, Kossuth High School, Corinth, MS
- Maxine Henson, Alcorn Central High School, Corinth, MS
- Richard Butcke, Homewood High School, Homewood, AL
- Tamalyn Jenkins, Homewood High School, Homewood, AL
- Albert Lilly, Alabama School of Math & Science, Mobile, AL
- Susan Rouillier, Alabama School of Math & Science, Mobile, AL
- Allen Bruce, Adamsville High School, Adamsville, TN
- Jean Bryan, Giles County High School, Pulaski, TN

Meals and lodging were provided to the teachers. The focus of the workshop was training teachers in techniques of project development. Instruction in project development, FORTRAN, UNIX, Internet Resources, visualization, and fundamentals of mathematics was provided by RTC Master Teachers (see Attachment A-1 for a schedule of the 1993 summer institute). After completion of the training, teachers were able to return to their schools and teach science and math using a project development approach either in a stand alone class or as a part of an existing math or science class.

Institute Instructors

Instruction was provided by experienced computational science teachers who teach at schools where computational science has been successfully implemented and by the EiS staff - Ms. Edna Gentry, Johnson High School, Huntsville, AL; Ms. Sharon Carruth, UAH; and Dr. John Ziebarth, UAH.

Curriculum Materials

Teacher training materials

Training materials for the summer institute were developed and each institute participant received a manual covering:

- Computational Science and Supercomputing
- UNIX
- Programming in FORTRAN
- Fundamentals of Mathematics
- Parallel Processing Techniques
- Project Development
- Internet Resources-FTP, Gopher, Archie

Teachers also received the following books:

- Computer Programming in FORTRAN the Easy Way
- A Practical Guide to the UNIX System

Computing Environment

EiS Summer Training Lab

The teacher training institute was held at the LASER lab in the UAH Computer Science Building. The lab contained 18 Sun workstations. All of the computers were connected to the UAH LAN, the Alabama Supercomputer Network, and the Internet. The participants received accounts on the UAH network and the ASN Cray X-MP and nCUBE.

Follow-up Support

School Visits

At least two follow-up visits were made to each school to provide support to the teachers in their local program. The visits were arranged to accommodate the needs of the teachers and provided time for troubleshooting, curricula consultation, and technical support and allowed the needs of specific school districts to be addressed.

Fall and Spring Follow-Up workshops

Each of the EiS teachers participated in fall and spring follow-up workshops during the 1993-94 school year. These workshops were an opportunity for teachers to receive enrichment training in project development, learn new teaching techniques and software, troubleshoot problem areas, and work in a technical lab setting. The workshops were held at the Tri-State Consortium.

Technical Support

Technical support and advice was provided to the EiS schools by the staff at UAH. UAH maintained teacher accounts for the EiS teachers and student accounts for the students who were enrolled in the EiS classes. Teachers also had accounts on the ASN Cray X-MP and nCUBE where they had access to the ASN help desk where technical questions could be answered.

EiS Activities June 1994 - May 1995

Under a contract modification, UAH issued a subcontract to the Alabama Supercomputer Network (ASN) and Nichols Research Corporation (NRC) to engage in specified tasks regarding the EiS program. These tasks included manual development for the summer institute, conducting the 1994 summer institute, fall follow-up workshop, introductory workshops and school visits. A copy of the final report for this contract is included in Attachment B.

Teacher Training

Selection of Teachers

Teachers who had participated in the 1993 summer institute returned to UAH for additional training in 1994. Two schools from Arkansas were added to the participants and 5 teachers were added to the list of participating teachers.

1994 Summer Institute

The two-week institute was held July 17 - July 29, 1994 (see Attachment A-2 for a schedule of the 1994 summer institute). Fifteen of the designated 19 EiS teachers attended the Summer Institute. Superintendents of the two Mississippi school districts participating in the EiS program made a firm commitment to assist the other Mississippi schools (the participating schools in Mississippi which were not RTCs) in establishing and maintaining connections to the Internet. Six teachers attended from Mississippi and represented six different schools (five high schools and one middle school). The Mississippi teacher from Ripley Middle School attended the workshop at his school's expense and request. Five teachers attended from Arkansas, representing two schools. Three teachers from Tennessee, representing two schools, attended. Five Alabama teachers were

selected to attend. However, teachers from the Alabama School of Math & Science were attending an institute as winners of the national computational science competition, SuperQuest, and were unable to attend the EiS Summer Institute. Richard Butcke, Homewood High School, attended and assisted with the instruction. Meals and lodging were provided to the teachers during the workshop. The following is a complete list of teachers participating in the EiS program:

- Ed Settle, Biggersville High School, Corinth, MS
- Steve Cain, Belmont High School, Belmont, MS
- Bobby Lowery, Tishomingo High School, Iuka, MS
- Bonnie Jones, Kossuth High School, Corinth, MS
- Maxine Henson, Alcorn Central High School, Corinth, MS
- Jack Jones, Ripley Middle School, Ripley, MS
- Richard Butcke, Homewood High School, Homewood, AL
- Tamalyn Jenkins, Homewood High School, Homewood, AL
- Albert Lilly, Alabama School of Math & Science, Mobile, AL
- Susan Rouillier, Alabama School of Math & Science, Mobile, AL
- Liz Tyler, Conway High School, Conway, AR
- Liza Allen, Conway High School, Conway, AR
- Will Meriwether, Conway High School, Conway, AR
- Caroline Gershner, DeValls Bluff High School, DeValls Bluff, AR
- Mary Jo Gray, DeValls Bluff High School, DeValls Bluff, AR
- Allen Bruce, Adamsville High School, Adamsville, TN
- Brian Jackson, Adamsville High School, Adamsville, TN
- Jean Bryan, Giles County High School, Pulaski, TN

Institute Instructors

Three Alabama teachers who were experienced in training teachers in computational science and in implementing successful computational science programs into high school curricula served as lead instructors for the summer institute: Ms. Gina Sullivan, Bob Jones High School, Madison, AL; Mr. Richard Butcke, Homewood High School, Homewood, AL; and Mr. Gary Harper, Andalusia High School, Andalusia, AL. Additional instruction was provided by Alabama Supercomputer Network (ASN) staff.

Curriculum Materials

Teacher training materials

Teacher training materials were updated and fifty copies of the manuals and eight sets of viewgraphs (one set for each RTC site) supporting the training manuals were prepared. The training materials consisted of four manuals:

Binder: *Explorations in Supercomputing*
 Welcome to EiS
 Course Format
 Introduction to Computational Science
 Course Development
 Lesson Plans

Book 1: *Internet Resources & UNIX*
 Book 2: *FORTTRAN & Parallel Processing*
 Book 3: *Project Development & Sample Projects*

Teachers also received The Whole Internet and FORTTRAN 77 for Engineers and Scientists to supplement their manuals.

Computing Environment

Improvement to Local Computing Labs

The EiS program provided equipment to each of the RTCs (Homewood High School, Alabama School of Math & Science, Biggersville High School, Tishomingo County High School, Conway High School, DeValls Bluff High School, Giles County High School, Adamsville High School) to improve their local computer lab to enable them to conduct training sessions locally. In most cases this equipment was used to augment their existing computer lab. In each RTC the initial equipment award and technical support provided by the EiS program stimulated the local agencies and school systems to provide supplemental equipment or connectivity.

Alabama:

RTCs in Alabama have also been supported by the Alabama computational science program for two years. Each RTC has a teaching lab supported by the local school and an internet connection made possible by its participation in the Alabama program. No additional equipment was provided under the EiS program.

Homewood High School

PC computer lab provided by the school
56 Kb network connection provided by ASN

Alabama School of Math & Science

PC computer lab provided by school
56 Kb network connection provided by ASN

Arkansas:

RTCs in Arkansas were provided with 8 PC computers with an array of software necessary to implement the computational science program in their school as well as enable the RTC Lead Teachers to conduct teacher training. The internet connection in each was provided by the state.

Conway High School and DeValls Bluff High School

8 PCs (EiS funded)
56 Kb network connection funded by the state

Mississippi:

RTCs in Mississippi were provided with PC computers (see breakdown below) and an internet connection. The connection at Tishomingo County High School was provided by the Tri-State Education Consortium which is located on the Tishomingo County High School campus. The Biggersville High School internet connection was provided by the EiS program but was assumed by the local school system upon completion of the EiS contract.

Tishomingo County Magnet School

7 PCs (EiS funded)
56 Kb network connection funded by Tri-State Education Consortium

Biggersville High School

8 PCs (EiS funded)
56 Kb network connection funded by EiS currently but will be assumed by the school system at the end of the grant period
School systems are funding regular phone line and modems to three other schools for teachers that attended in support of the Mississippi RTC sites.

Tennessee:

Giles County High School was also a participant of a DOE funded program, Adventures in Supercomputing (AiS). As an AiS school, Giles County has been provided with a Macintosh lab consisting of 4 Macintosh computers, a color printer, and a 56 Kb internet connection. The EiS program added one Power PC to their lab. The Adamsville High School RTC chose to connect

their 16 computers in their computer lab to the Internet using a 16 port Multiplexer and a 28.8 baud modem. The school provided the phone line necessary for the connection.

Giles County High School

Computer lab established by a DOE funded grant
1 Power PC (EiS funded)
56 Kb network connection provided by the DOE grant

Adamsville High School

16 port Multiplexer and 28.8 Modem (EiS funded)
School providing the phone line

EiS Summer Training Lab

The EiS summer institute was held at the George C. Wallace Supercomputer Center in Huntsville, Alabama. Twenty-one of the thirty-one PCs purchased for the EiS RTCs were configured and used during the institute. The teachers were trained on the equipment and in the use of software they would use in the classroom. All of the computers were connected to an ethernet LAN, the ASN, and the Internet. The participants received accounts on the NASA Project LASER Sun workstations at UAH, and the ASN Cray C-94 and nCUBE.

Software installed and used during the training:

Public Domain Software:

Mosaic
Cello
FTP Client
TurboGopher
CU-SeeMe
Wireman
Climoman
C-Show
Lview
HTML Assistant
NCSA Telnet

Commercial Software:

Microsoft Office

Follow-up Support

Reflector

Each EiS teacher was added to the ASPIRE (Alabama Supercomputing Program to Inspire computational Research in Education) reflector, a mailing list comprised of all ASPIRE teachers. On this reflector teachers are able to share ideas, ask questions, and network with each other.

School Visits

Each of the six RTC schools were visited at least five times by the EiS staff. The visits were arranged to accommodate the needs of the teachers and provided time for troubleshooting, curricula consultation, and technical support and allowed the needs of specific school districts to be addressed.

Fall Follow-Up workshop

The EiS Fall follow-up workshop was held September 29-30, 1994 (see Attachment A-3 for the Fall Follow-up workshop agenda). Dr. Johnny Arnold, Executive Director of the Tri-State Education Consortium, and Mr. Bobby Lowery, EiS Lead Teacher, Tishomingo County Magnet High School, hosted the workshop at the Tri-State Learning Center, located on the Tishomingo

High School Campus, using the new lab of 18 PCs. The six Mississippi teachers (who will also use this lab for some of their workshops) benefited tremendously from this opportunity to use the lab equipment.

Outreach

Each RTC conducted introductory workshops at their site for other teachers in their RTC region. Over 100 teachers were trained in these workshops. Several of the schools are utilizing their labs to train teachers in their school system (see Attachment A-4 for a sample introductory workshop application and agenda for an introductory workshop). UAH is providing accounts for the teachers who are trained in the workshops. Two EiS teachers, Ms. Liz Tyler, Conway High School, Conway, AR, and Ms. Caroline Gershner, DeValls Bluff High School, DeValls Bluff, AR provided instruction in sessions at the national conference Supercomputing '95. Several other EiS teachers were selected to receive a grant from the conference to attend.

Technical Support

Technical support was provided to EiS schools and teachers during school year 1994-95. EiS staff worked with each school to determine the network configuration that best suited their site, and was available to assist with troubleshooting. Each site is sharing in the cost of supplying the connection or has agreed to assume the costs of the network connection at the end of the funding period. By the end of the school year all the networks were in place.

EiS Activities June 1995 - October 1995

Teacher Training

1995 Summer Institute

An Advanced Computational Science workshop was held for the EiS participating teachers July 23 - July 28, 1995, at the NASA Project LASER lab on the UAH campus. Topics for the workshop included (see Attachment A-5 for a summer institute schedule):

- Review of Basics
- Cellular Automata
- Project Development
- Curriculum Development (Course Outlines, Time lines, Course Descriptions)
- Scientific Visualization
- Teaching Techniques and Student Assessment
- Parallel Processing
- Creating a Home Page
- Setting up and Maintaining a Web Server
- Mathematical Modeling, Coding, Data Analysis, Interpreting Results, Conclusions
- Project Presentations

EiS List of Participants

There were no new schools added to the list of participating schools this year. However, with few exceptions the programs continued to remain in place and students were taught computational science. With the exception of DeValls Bluff High School where Mary Jo Gray has taken medical leave and is no longer participating in the EiS program, all of the programs continue to function well. The following list of teachers and schools is the current list of participating schools and teachers:

- Ed Settle, Biggersville High School, Corinth, MS
- Steve Cain, Belmont High School, Belmont, MS
- Bobby Lowery, Tishomingo High School, Iuka, MS
- Bonnie Jones, Kossuth High School, Corinth, MS
- Maxine Henson, Alcorn Central High School, Corinth, MS

- Jack Jones, Ripley Middle School, Ripley, MS
- Richard Butcke, Homewood High School, Homewood, AL
- Tamalyn Jenkins, Homewood High School, Homewood, AL
- Albert Lilly, Alabama School of Math & Science, Mobile, AL
- Susan Rouillier, Alabama School of Math & Science, Mobile, AL
- Liz Tyler, Conway High School, Conway, AR
- Liza Allen, Conway High School, Conway, AR
- Will Meriwether, Conway High School, Conway, AR
- Caroline Gershner, DeValls Bluff High School, DeValls Bluff, AR
- Allen Bruce, Adamsville High School, Adamsville, TN
- Brian Jackson, Adamsville High School, Adamsville, TN
- Jean Bryan, Giles County High School, Pulaski, TN

Institute Instructors

Instruction in the one week summer institute was provided by experienced computational science teachers and the EiS staff - Mr. Joe Toone, East Limestone High School, Athens, AL; Dr. Albert Lilly, Alabama School of Math & Science, Mobile, AL; Ms. Edna Gentry, UAH.

Curriculum Materials

Teacher training materials

Each institute participant received a manual which was developed for the EiS program on advanced topics of computational science. The manual had information covering each topic discussed in the institute. Teachers also received a copy of Education on the Internet as a supplement to their materials.

Computing Environment

EiS Summer Training Lab

The teacher training institute was held at the Project LASER lab in the UAH Computer Science Building. The lab contains 18 Sun workstations. All of the computers were connected to the UAH LAN, the Alabama Supercomputer Network, and the Internet.

Equipment

The EiS program was able to facilitate the development of computational science at Belmont High School by providing them with 8 PCs for their computational science program. The school system responded by providing a 56 Kb internet connection. The EiS program provided a Power Macintosh and a Terminal Server to Homewood High School and to the Alabama School of Math & Science. Additional software for scientific visualization was provided to each of the participating school.

Follow-up Support

School Visits

A final follow-up visit was made to schools during first semester of the 1995-96 school year to provide support to the teachers in their local program. During the visits the EiS staff met with technology coordinators to help finalize their local technology plans for the schools.

Outreach

Through the initial investment made at the EiS schools, many teachers and schools have been reached. Each of the schools has continued to reach out to the communities served by the schools

to include more teachers in the technology thrust. School systems have proven to be supportive of the schools in this endeavor.

Each school has had numerous workshops to train the teachers in their own schools, and encourage them to use the computer lab established or supplemented by the EiS program in their classes.

Two EiS teachers, Mr. Richard Butcke, Homewood High School, Homewood, AL, and Dr. Albert Lilly, Alabama School of Math & Science, Mobile, AL, provided instruction in sessions at the national conference Supercomputing '95. Several other EiS teachers were selected to receive a grant from the conference to attend.

Technical Support

Technical support and advice continued to be provided to the EiS RTCs and teachers. UAH also continued the accounts for the EiS teachers. UAH enjoys a close working relationship with the schools and teachers and they are still on the ASPIRE reflector, a mailing list for all the ASPIRE teachers in Alabama, Tennessee, Mississippi, and Arkansas.

SUMMARY

The Explorations in Supercomputing program impacted hundreds of teachers and students in Alabama, Arkansas, Mississippi, and Tennessee. Through an initial investment made by NASA through the EiS program a select number of schools and teachers were mobilized to spread their knowledge through their school, community, state, and nation. They have done this by hosting workshops for their own faculty, hosting workshops for nearby schools and school systems, making presentations to their local Parent/Teachers organizations and school boards, making presentations at local, state, and national conferences, serving as technical consultants, and teaching their own students in the project development technique of learning science and mathematics.

Each school is working with their own local school board to make arrangements for maintaining their internet access. One of the teachers is working with his school system as a consultant for the installation of the local network to accommodate the internet access that is being provided by the state. The EiS teachers are recognized as leaders in the field of educational technology.

Though the grant has ended, the EiS teachers continue to host workshops, teach their classes, maintain their internet networks, and attend and present at local, state, and national conferences. This method of learning science through "doing" science has been shown to be effective in reaching students to continue their studies in math and science. The teachers are convinced that this method of learning math and science will set the standard for others to follow.

Attachment A-1

NASA Marshall Space Flight Center

Explorations in Supercomputing

Teacher Training Program
Summer Institute 1993

John Ziebarth
Program Coordinator
Sharon Carruth
Instructors
Edna Gentry
Jane Jones
Greg Cox
Gary Harper

SUNDAY August 1	MONDAY August 2	TUESDAY August 3	WEDNESDAY August 4	THURSDAY August 5	FRIDAY August 6	SATURDAY August 7
9:00 a.m.	8:00 - 8:30 Welcome at UAH Project LASER Lab Introductions EIS Program- Jim Pruitt Computational Science & Supercomputing Beginning Unix John Ziebarth Edna Gentry	9:00 - 11:00 Basics of Fortran History Compile, Load, Run Developing Programs Column Syntax Comment, Print, Read Stop, End Sharon Carruth John Ziebarth	9:00 - 10:00 Guest Speaker FORTRAN John Ziebarth & Sharon Carruth	9:00-11:00 Fortran Do Loops, Arrays Dimension Statements I/O, Legal Subscripts Multi-Dimensional Arrays Sharon Carruth & John Ziebarth	9:00-11:00 Math Fundamentals Edna Gentry & Sharon Carruth	
10:00 a.m.	Lunch	Lunch	Lunch	Lunch	Lunch	
11:00 a.m.	12:00 - 5:00 Introduction to Unix Pine & Pico Jane Jones & Edna Gentry	12:00 - 5:00 Basics of Fortran Variable Names Arithmetic Operators Assignment Statements Data Declaration Order of Operations Fortran Expressions Taking Roots Mixed Mode Goto Edna Gentry John Ziebarth	12:00 - 3:30 Fortran If statements Relational Operators Nested Decisions Logical and/or Edna Gentry & John Ziebarth 4:00-6:00 Using Internet John Ziebarth	12:00-1:00 Carl Davis Computer Ethics UAH 1:30 - 5:00 Scientific Visualization John Ziebarth Sharon Carruth	12:00-5:00 Fortran LAB Matrices Programming Exercises Edna Gentry & John Ziebarth	Space & Rocket Center Tour
12:00 p.m.						
5:00 p.m.	5:00 - 6:00 Dinner	5:00 - 6:00 Dinner	6:00 Dinner	5:00 - 6:00 Dinner		
6:00 p.m.	6:00 - 9:00 Unix lab cont. John Ziebarth & Edna Gentry	6:00 - 9:00 Teaching Supercomputing to High School Students Developing a Course John Ziebarth Edna Gentry		6:00-9:00 File Transfers NERSC Applications Wireman LAB Edna Gentry & John Ziebarth		
9:00 p.m.	7:00 Welcome Dinner Bevill Center Dining Room					

Alabama Supercomputer Authority/University of Alabama in Huntsville

Project Director
John Ziebarth
Program Coordinator
Sharon Carruth
Instructors
Edna Gentry
Jane Jones
Greg Cox
Gary Harper

NASA Marshall Space Flight Center

Explorations in Supercomputing

WEEK 2

Teacher Training Program
Summer Institute 1993

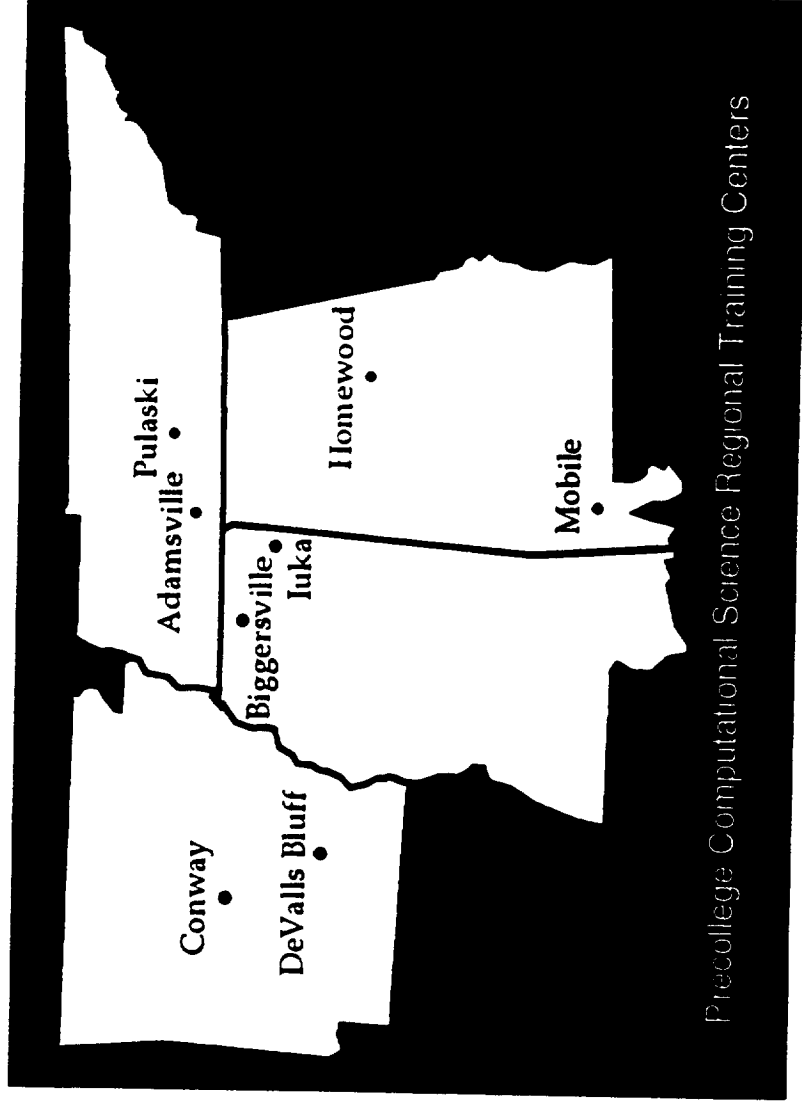
	SUNDAY August 8	MONDAY August 9	TUESDAY August 10	WEDNESDAY August 11	THURSDAY August 12	FRIDAY August 13	SATURDAY August 14
9:00 a.m.		9:00 - 11:00 Guest Speaker Fortran LAB John Ziebarth & Edna Gentry	9:00 - 10:30 Ground Truth Studies Greg Cox Research Institute Room A20 UAH Campus Sharon Carruth & John Ziebarth	9:00 - 11:00 Review Course Outlines, lessons FORTRAN Subroutines Functions John Ziebarth Edna Gentry	9:00 - 11:00 Parallel Processing John Ziebarth & Edna Gentry	9:00 - 12:00 Plans for the Future Expo SuperQuest Wrap-Up John Ziebarth & Edna Gentry	
10:00 a.m.		Lunch	Lunch	Lunch	Lunch		
11:00 a.m.		12:00 - 3:30 Network Resources Gary Harper & John Ziebarth 3:30-5:00 NCSA VIDEO's UAH	12:00 - 3:00 Fortran Lab Intrinsic Functions Do/Arrays Format Statements John Ziebarth & Gary Harper	12:00 - 2:00 Teacher Presentations & Discussions Edna Gentry & John Ziebarth NCSA Videos Related NASA Programs Guest Speaker LAB 3:00-6:00	12:00 - 1:00 Finding Mentors Panel Discussion Edna Gentry & John Ziebarth Parallel Processing LAB Class project/samples John Ziebarth & Edna Gentry		
5:00 p.m.		5:00 - 6:00 Dinner	5:00 - 6:00 Dinner	6:00 Dinner & Night Out Mikato's	5:00 - 6:00 Dinner		
6:00 p.m.		6:00 - 9:00 Application Lab Edna Gentry & Gary Harper	6:00 - 9:00 Application Lab Work on Outlines and Lesson Plans John Ziebarth & Sharon Carruth		6:00 - 9:00 Advanced Topics Class Projects John Ziebarth & Edna Gentry		
9:00 p.m.							

Alabama Supercomputer Authority/University of Alabama in Huntsville

Attachment A-2

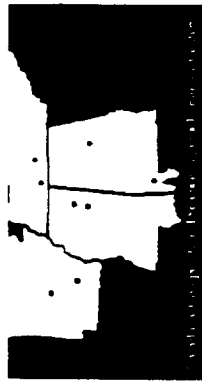
Explorations in Supercomputing

Teacher Training Program • Summer Institute 1994



Funded by:
NASA Marshall Space Flight Center

Supported by:
**University of Alabama in Huntsville
Alabama Supercomputer Authority
Nichols Research Corporation**



Explorations in Supercomputing

University of Alabama in Huntsville / Alabama Supercomputer Authority/Nichols Research Corporation

Teacher Training Program • Summer Institute 1994

Coordinators
Sharon Carruth
Ann Hernandez

Instructors
Gina Sullivan
Gary Harper
Richard Butcke

	SUNDAY July 17	MONDAY July 18	TUESDAY July 19	WEDNESDAY July 20	THURSDAY July 21	FRIDAY July 22
MORNING 9:00-12:00		<p>Welcome & Introductions -Sharon Carruth -Gina Sullivan -Guest Speakers</p> <p>Introduction to EIS What Is EIS?</p> <p>Goals Expectations Evaluation & Assessment</p> <p>ASA Tour -Wayne Whitmore</p> <p>Internet Resources What Is Internet?</p> <p>Introduction to Cello -Donna Kiecka</p>	<p>Unix-Files & Directories -Gary Harper -Gina Sullivan</p> <p>Creating, Removing, Organizing</p> <p>Transferring Files-FTP -Gary Harper -Gina Sullivan</p> <p>Archie Anonymous FTP's How to search thru remote directories Downloading Files</p>	<p>Quick Review of Terms -Gina Sullivan -Richard Butcke</p> <p>Basic Unix Commands & Basics of FORTRAN</p> <p>FORTRAN(cont.) Order of Operations Fortran Expressions Taking Roots of No.s Mixed Mode Arithmetic GOTO Writing to a File Computational Science Project Development SpreadSheet</p>	<p>Fortran (cont.) -Richard Butcke -Gina Sullivan</p> <p>DO Loops Nested DO Loops Dimension Statements Input/Output of Arrays Legal Subscripts</p>	<p>Scientific Visualization (NERSC Applications) -Richard Butcke -Gary Harper</p>
AFTERNOON 1:00-6:30	<p>4:00pm Welcome- Sharon Carruth -Gina Sullivan</p> <p>Machine Set-up -Ann Hernandez -Gary Harper</p> <p>PC Basics-Ann Hernandez -Gary Harper -Richard Butcke</p> <p>Load Software</p>	<p>Purpose of High Performance Computers -Gina Sullivan</p> <p>What is Computational Science??</p> <p>What is a Super-computer? (nCUBE/Cray)</p> <p>How do you connect to a Supercomputer??</p> <p>Accessing the Network- -Richard Butcke</p> <p>Logon, Telnet, etc. Electronic Mail - PINE On-Line Editor- PICO</p> <p>Beginning UNIX</p>	<p>Basics of FORTRAN -Richard Butcke -Gina Sullivan</p> <p>History Compile, Load, Run Developing Programs Column Syntax Comment, Print, Read Program Statement Stop, End Statements Character Statements Variable Names & Types Arithmetic Operators Assignment Statements Data Declaration</p>	<p>FORTRAN(cont.) -Richard Butcke -Gary Harper</p> <p>If Statements Relational Operators Nested Decisions Logical AND/OR Intrinsic Functions</p> <p>Computational Science Sample Project</p> <p>Transferring Files -Gary Harper</p>	<p>FORTRAN(cont.) -Gina Sullivan -Gary Harper</p> <p>Data Statements Format Statements Multi-dimensional arrays Implied Do's</p> <p>Computational Science Project Development</p> <p>Teaching Techniques</p>	<p>FORTRAN (cont.) -Richard Butcke -Gary Harper</p> <p>LAB</p>
EVENING 6:30-9:00	<p>Welcome Cookout Bevill Center 7:00pm</p>	<p>Teaching Supercomputing to High School Students -Gina Sullivan -Gary Harper</p> <p>UNIX Lab-Creating, Saving & Editing Files</p>	<p>FORTRAN (cont.) -Richard Butcke LAB</p>	<p>Review of Unix -Gary Harper</p> <p>Writing a Course Outline & Lesson Plans</p>	<p>Dinner Out</p>	<p>Evening Out</p>

Sponsored by NASA Marshall Space Flight Center

WEEK 1



Explorations in Supercomputing

University of Alabama in Huntsville / Alabama Supercomputer Authority/Nichols Research Corporation

Teacher Training Program • Summer Institute 1994

Coordinators
Sharon Carruth
Ann Hernandez

Instructors
Gina Sullivan
Gary Harper
Richard Butcke

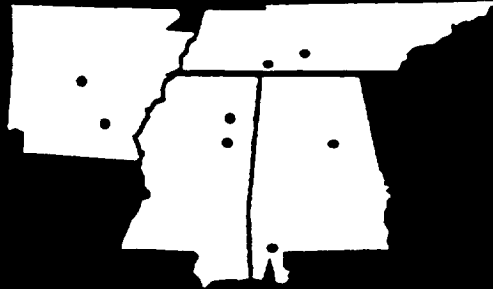
	SUNDAY July 24	MONDAY July 25	TUESDAY July 26	WEDNESDAY July 27	THURSDAY July 28	FRIDAY July 29
MORNING 9:00-12:00		FORTRAN (cont.) Review & Lab -Gina Sullivan Gary Harper	Scientific Visualization -Donna Klecka Gary Harper Project Development Nasa SpaceLink -Bill Anderson, NASA Jeff Ehmen, NASA	Review of Course Descriptions, Outlines, & Lesson Plans -Gary Harper Richard Butcke Turn In: Course Description Course Outline Lesson Plan	FORTRAN Lab (Catch-Up Time) -Gina Sullivan Richard Butcke	Plans for the Future -Sharon Carruth Ann Hernandez Teacher Presentations Turn in Lesson Plans, etc. on a DISKETTE -Gary Harper Ann Hernandez
AFTERNOON 1:00-6:30	Lab Will be Open -Sharon Carruth Gary Harper	FORTRAN (cont.) -Gina Sullivan Richard Butcke Subroutines Functions	Scientific Visualization -Donna Klecka Richard Butcke Project Development	Parallelization Techniques -Wade McClean Gina Sullivan Parallel Processing Sample Programs	Advanced Topics & Class Projects -Gary Harper Gina Sullivan Writing Lab Developing a Time Line Revision of Course Descriptions, Outlines & Lesson Plans Evaluations-UAH Expense Forms & Letters -UAH	Wrap - Up & Closing Remarks -Ann Hernandez
EVENING 6:30-9:00		Network Resources -Richard Butcke	Application Lab -Gina Sullivan Work on Lesson Plans	NIGHT OUT	Network Resources -Gary Harper	

Sponsored by NASA Marshall Space Flight Center

WEEK 2

Attachment A-3

Explorations in Supercomputing



Precollege Computational Science Regional Training Centers

MAJOR Sponsors: U.S. Department of Energy, National Science Foundation, and the states of Mississippi, Alabama, and Tennessee.

Fall Follow-up Workshop

Hosted by:

**Tri-State Education Consortium
Tishomingo County High School
Iuka, Mississippi**

September 30, 1990

8:30am-3:00pm

Agenda

Welcome

Dr. Johnny Arnold
Executive Director
Tri-State Education Consortium

Mr. Stanley Magill
Acting Superintendent
Tishomingo County School System

Overview of EiS RTC Workshops & Agenda

Sharon Carruth
EiS Project Manager
Nichols Research Corporation

Review & Walk-Thru of EiS RTC Manuals & Lab Exercises

Ann Hernandez
EiS Project Coordinator
Nichols Research Corporation
&

EiS RTC Teachers will lead session on various topics

Review of Computational Science Topics
(As requested by EiS Teachers)
NRC Staff

Question & Answer Session
NRC Staff & EiS Teachers

Attachment A-4

Explorations in Supercomputing (EiS)

Biggersville High School EiS RTC Introductory Workshop

October 25, 1994

Lead Teachers:

**Ed Settle
Maxine Henson
Anise Jones**

Agenda

Welcome

Introductions

Overview of EiS Program

**What is EiS?
What is an RTC?
Goals
Funding
What is Computational Science?**

Overview of State Program

Goals of State Program

Information Superhighway

**What is Internet
How do you Connect?
What is an Account or Internet Address?**

E-Mail

**What is E-mail?
How to Send E-mail
How to Read E-mail
How to Reply to E-mail
How to Save Messages
How to Delete Messages
How to Use Address Book**

Lunch

Internet Resources

**Mosaic
Cello
Creating Home Pages
FTP Clients
Gopher
Archie**

Dial-In Access

DISTRIBUTE TO ALL 9-12 MATH, SCIENCE & COMPUTER PROGRAMMING TEACHERS

TO: Mathematics and Science Teachers, Grades 9-12
FROM: Explorations in (EiS) Program
RE: **Free Workshop, Introduction to Computational Science, Supercomputing & Internet Resources**
DATE: September 13, 1994

You are invited to apply for participation in the upcoming workshop, **Introduction to Computational Science, Supercomputing & Internet Resources**, which will be hosted by Biggersville High School. The date for the workshop is **October 25, 1994, from 8:30 am to 3:00 pm**. It will be held at:

Biggersville High School
Route 4, Highway 45 South
Corinth, MS 38834
(601) 286-3542

This workshop, funded by NASA Marshall Space Flight Center, is jointly sponsored by The University of Alabama in Huntsville, Alabama Supercomputer Authority, and Nichols Research Corporation. The presentation is designed to introduce K-12 teachers to the field of Computational Science. It offers hands-on experience in using supercomputers in the classroom to enhance science and mathematics courses. It also provides an introduction to the world of computer networks which are used to communicate, to investigate, and to exchange class projects with teachers and students around the world via the Internet.

Accounts on the Internet and supercomputer will be provided free to all participants and will remain active and free of charge for as long as you wish to use them in your classroom.

In order to access the Internet from the classroom, each teacher will need a phone line, a 1200 or 2400 baud modem, and a computer to connect to the modem. The materials will run on either a Macintosh or an IBM compatible with a VGA monitor. An 800 toll-free number has been donated by the Tri-State Education Consortium and NASA for use by the schools which do not have local access. *Therefore, if your school has the phone line, modem, and computer in place, there is no cost to your school system for the connection.*

Enrollment is limited to sixteen participants. Registration will occur as applications are received. To ensure your participation, return the attached application no later than **October 7, 1994**. A small stipend will be paid to each participating teacher to assist in covering meals and travel costs.

We look forward to having you participate in the EiS program. If you have any questions please contact one of the persons listed below:

Ed Settle
Route 4, Highway 45 South
Corinth, MS 38834
(601) 286-3542

Sharon Carruth
686 Discovery Dr.
Huntsville, AL 35806
(205) 971-7434

Ann Hernandez
686 Discovery Dr.
Huntsville, AL 35806
(205) 971-7437

Explorations in Supercomputing



Precollege Computational Science Regional Training Centers

Please return application by October 7 to the following address:

Explorations in Supercomputing
ATTN: Sharon Carruth
686 Discovery Drive
Huntsville, AL 35806
205-971-7434
FAX: 205-971-7491

Workshop will be held at:
Biggersville High School
Biggersville, Mississippi: October 25, 1994

School System Information

School Information

School Name: _____

Street Address: _____

City, State, Zip: _____

School Phone: _____

School FAX: _____

Principal's Name: _____

System or District: _____

County: _____

Superintendent Name _____

Street Address _____

City, State, Zip _____

Phone Number: _____

Fax Number: _____

Is the school: ☐ Public ☐ Private

Participation Agreement

In order to participate in the EiS supercomputing program, your school must provide the following for a connection to the Alabama Supercomputer Network at the school for use by teachers and students:

- A phone line & modem to the classroom which will be used to connect to the supercomputer network.
- An IBM or compatible or Apple Macintosh personal computer & communication software to serve as the connection.

Each teacher attending the workshops will be provided with an Internet account at no charge. All materials for the workshops will be provided at no cost to the system. Time on the supercomputer will be provided at no cost to the school system. There is an 800 number for schools making long-distance calls.

As the _____ of
(principal, headmaster, superintendent)

_____, I certify that
(school/school system),

_____ and _____
(two teachers)

have accurately responded to this application, and I certify (based on current staffing plans) that they will be teaching at this school during the 1994-95 school year and that they will be allowed to attend a workshop to train teachers in supercomputing, in the development of computational science and/or math projects and Internet resources.

I also certify that access to the Alabama Supercomputer Network will be provided from the school lab if it is not already in place. I understand that the minimum acceptable access to the Alabama Supercomputer Network will require a phone line to a classroom, a modem, and a personal computer (MS-DOS or Macintosh) with terminal emulation software. I also understand that travel for participants, refreshments, materials, and supplies for the workshop, including copies of public domain software demonstrated will be provided by the University of Alabama in Huntsville to the teacher attending the workshop at no charge to my school.

Signature of Principal/Headmaster/Supt. _____ Date _____

Teacher Information/ Background

Teacher Name: _____

Street Address: _____

City, State, Zip: _____

Home Phone: _____

SSN: _____

Areas of Certification: _____

Education

University _____

Degree _____

Year _____

Total Number of Years
Teaching Experience: _____

Total Number of Years
at Current School: _____

Areas in which currently teaching
Grade Level of students being taught: _____

Programming Experience

Please check the best description for your level of experience with the following languages:

Language	None	Minimal	Moderate	Extensive	Have Taught This Course
FORTRAN	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> at _____
Pascal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> at _____
BASIC	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> at _____
C	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> at _____

Other languages or applications: _____

What types of computers have you used, if any? _____

Into which class will you implement this computational science curriculum and Internet resources during the 1994-95 school year? _____

For the EiS Supercomputing program to be successful, participants must return to their schools and involve students and other teachers in the use of Internet, computational science and math projects. Explain why you feel you can be successful in getting other teachers and students involved in computational science and math projects during the 1994-95 school year. Attach additional sheets as necessary.

The establishment of a connection to the Alabama Supercomputer Network will allow participating teachers to become familiar with the equipment and its use prior to its use in the classroom. Please discuss your school's plans to provide a computer and phone line to establish this connection. List the equipment that the school currently has which will meet these needs. Attach additional sheets as necessary.

Attachment A-5

1995

ADRIKE

Alabama Supercomputing Program to Inspire computational Research in Education

Explorations in Supercomputing

1995 Summer Institute

PROJECT DIRECTOR:
Dr. Carl Davis

PROJECT COORDINATOR:
Ms. Edna Gentry

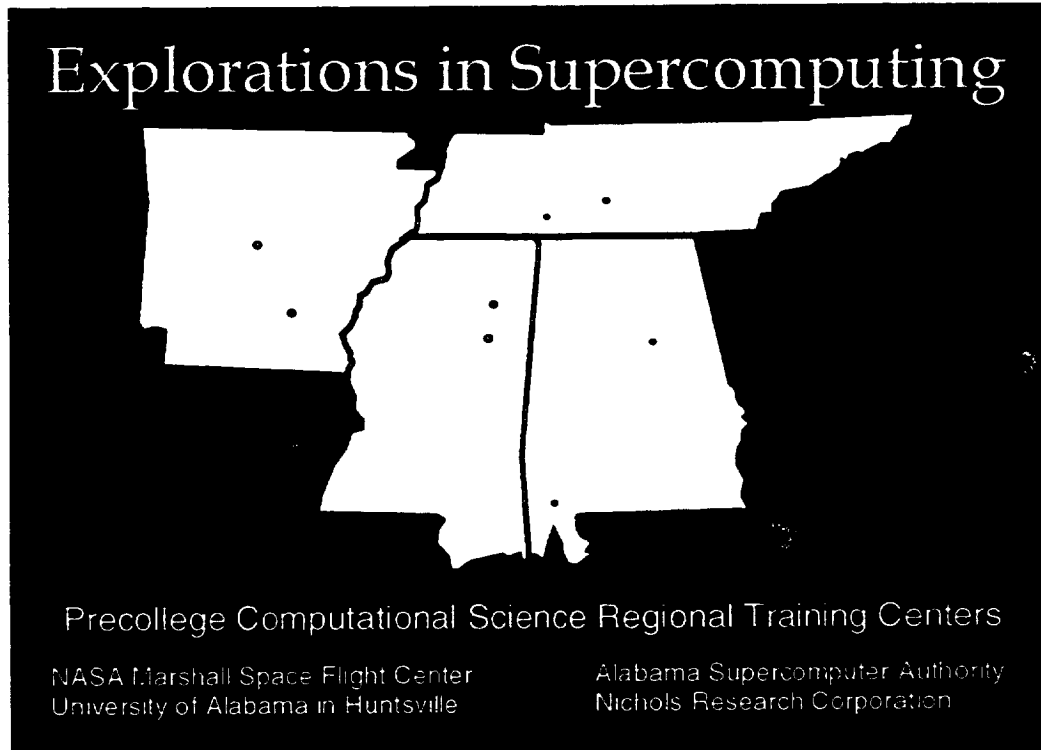
INSTRUCTORS:
Dr. Albert Lilly
Joe Toone

WEEK 1	SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
9:00 - 12:00		Welcome Introduction of Staff and Instructors Overview of Workshop <i>Dr. Carl Davis</i>	CURRICULUM Curriculum Development Time Line Course Outline Course Description <i>Edna Gentry</i>	POV-Ray Tracing <i>Joe Toone</i> Scientific Visualization <i>Joe Toone</i>	Creating a Home Page Setting Up A Web Server <i>Joe Toone</i>	PROJECT PRESENTATIONS
12:00 - 1:00		LUNCH	LUNCH	LUNCH	LUNCH	LUNCH
1:00 - 5:00	3:00 - 7:00 Arrival of Teachers	REVIEW Fortran Cellular Automata FractInt <i>Dr. Albert Lilly</i> UNIX Communication Skills Network Resources <i>Joe Toone</i>	Project Definition Research Working with a Mentor Mathematical modeling Coding Techniques of Visualization Writing a Technical Paper <i>Edna Gentry Main</i>	Working with your team to develop Daily Lesson Plans Panel Discussion on Teaching Techniques and Assessment Curriculum Development <i>Dr. Albert Lilly</i>	Mathematical Modeling Coding Interpreting Results and Drawing Conclusions <i>Dr. Albert Lilly</i> Writing the Paper <i>Dr. Carl Davis</i>	WRAP-UP
5:30 - 7:00		DINNER	DINNER	DINNER	DINNER	DINNER on your own
7:00 - 9:00	7:00 PM Welcome Dinner	Project Development as an important part of the course outline <i>Edna Gentry Main</i> LAB for review activities <i>Joe Toone</i>	Installing/Using a Modem I-COMM <i>Joe Toone</i>	Parallel Processing <i>Gary Rhoney</i>	DINNER OUT MIKATO'S	

University of Alabama in Huntsville

Attachment B

Explorations in Supercomputing (EiS)



Subgrant 94-087

Final Report

Submitted to:

University of Alabama in Huntsville

Submitted by:

**Alabama Supercomputer Authority
and
Nichols Research Corporation**

December 31, 1994

Explorations in Supercomputing (EiS)

Subgrant 94-087 Final Report

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Adamsville High School	

Explorations in Supercomputing (EiS)

Final Report

INTRODUCTION

The Alabama Supercomputer Authority (ASA) and Nichols Research Corporation (NRC) entered into an agreement, Subgrant 94-087, on June 1, 1994, with the University of Alabama in Huntsville (UAH) to provide support and services to UAH to advance the goals of the Explorations in Supercomputing (EiS) program awarded to UAH by the National Aeronautics and Space Administration. The EiS program is a precollege program that establishes eight Precollege Computational Science Regional Training Centers in four states: Alabama, Arkansas, Mississippi, and Tennessee. Under Subgrant 94-087, the Alabama Supercomputer Authority/Nichols Research Corporation (ASA/NRC) agreed to provide during the time period June 1, 1994 – December 31, 1994, personnel, workshop instructors, travel, services, and manuals to support the EiS program including:

- Summer workshop in Huntsville for 18 teachers from eight secondary schools in Alabama, Arkansas, Mississippi, and Tennessee (teacher travel not included).
- Fall follow-up workshop
- Regional Training Center workshops on-site: two in Arkansas, two in Mississippi, one in Tennessee.
- Four on-site visits to each of the six schools located in Arkansas, Mississippi, and Tennessee.
- Coordination and facilitation of Internet connections for the six schools located in Arkansas, Mississippi, and Tennessee.
- Continuation of connections to the Alabama Supercomputer Network for the two schools located in Alabama.
- Establishment of up to 100 Summer workshop accounts on ASA supercomputers.

EIS PROGRAM ACHIEVEMENTS

ASA and NRC are pleased to report that the EiS program has had a very positive impact on the participating EiS teachers and students from the various school districts as well as on teachers from around the nation. ASA/NRC Educational Specialists were organizers of the hands-on sessions under the Education Program for the national supercomputing conference, Supercomputing '94. This provided an opportunity for two of the EiS RTC Lead Teachers, Caroline Gershner, DeValls Bluff, Arkansas and Liz Tyler, Conway, Arkansas, to serve as presenters of a hands-on session on Internet at the Washington D. C. conference held

November 12-18, 1994. Approximately 80 teachers from around the nation attended the EiS teachers sessions. ASA/NRC assisted the EiS teachers in the development of materials for the session based on the introductory EiS RTC manuals.

ASA/NRC trained 18 teachers during the EiS Summer Institute of 1994 as lead/support teachers for the EiS RTCs. An additional 63 teachers have been trained in e-mail, basic UNIX commands, FTP, Gopher, Mosaic, and Cello under the fall EiS RTC Introductory Workshops. Two EiS RTC sites in Mississippi and Arkansas are arranging additional workshops for teachers in their area. These additional area teachers were unable to attend the previously held EiS workshop.

Approximately 155 students are directly involved in the EiS program through courses incorporating computational science curriculum material and Internet resources at the RTCs. Four of the six RTC sites that ASA/NRC supported this fall have incorporated the computational science material into a course at the school. DeValls Bluff in Arkansas had planned to do so but the designated teacher was diagnosed with cancer and is on leave for treatment this year. They hope to reinstate the course upon her return. The second teacher of the DeValls Bluff RTC team has been very successful in conducting workshops for area teachers and is introducing the Internet and its resources to a group of gifted and talented students as well as to groups of seventh and eighth graders during their library time. Adamsville High School overcame initial difficulties with their configuration and are now involving students in the program. An additional teacher has been brought into the program at Adamsville through the RTC workshops, and she will be working closely with the students during the second semester. Many more students will receive instruction during the second semester through the 63 teachers who were trained in the Fall EiS RTC workshops.

ASA/NRC Network Analysts and Educational Specialists have worked closely with school administrators in formulating plans for continued support and growth of the computational science and Internet access programs within their districts. The administrators have been extremely supportive of the EiS program and are very pleased with its initial impact on their teachers, students, and district.

The following is a final report covering ASA/NRC support, services, and activities performed under EiS Subgrant 94-087 for the time period June 1, 1994 – December 31, 1994.

SUMMARY OF COMPLETED ASA/NRC EIS SUPPORT SERVICES AND ACTIVITIES

The following ASA/NRC tasks were completed. A timetable and a detailed task breakdown of ASA/NRC EIS support activities are provided in Attachment A-1.

1) Summer Workshop in Huntsville for 18 Teachers

A) Development, Revision, and Printing of Summer Training Materials

Preparation of the training manual began on June 1 and was completed on July 11. Fifty copies of the manuals and eight sets of viewgraphs (one set per EIS RTC site) supporting the training manuals were prepared. The training materials consist of four manuals:

Binder: *Explorations in Supercomputing*
 Welcome to EIS
 Course Format
 Introduction to Computational Science
 Course Development
 Lesson Plans

Book 1: *Internet Resources & UNIX*

Book 2: *FORTRAN & Parallel Processing*

Book 3: *Project Development & Sample Projects*

B) Organizing and Hosting the EIS 1994 Summer Institute

Institute & Participants

The institute was held July 17 – July 29, 1994. A detailed schedule of the workshop is provided in Attachment A-2. A letter of invitation and a packet of information were mailed to each site identified by the participating state's Department of Education, the Tri-State Education Consortium, and/or the Alabama Supercomputer Authority on June 10, 1994. Two schools from each state were selected to participate. Fifteen of the designated 19 EIS teachers attended the Summer Institute.

The Mississippi EIS RTC sites chose to have teachers from different schools within the district attend the workshop to better support the RTC and the Tri-State Education Consortium. Superintendents of the two Mississippi school districts participating in the EIS program made a firm commitment to assist the other schools in establishing and maintaining connections to the Internet. Six teachers attended from Mississippi and represented six different schools (five high schools and one middle school). The Mississippi teacher from Ripley Middle School attended the workshop at his school's expense and request. Five teachers attended from Arkansas, representing two schools. Three teachers from Tennessee, representing two schools, attended. Five Alabama teachers were selected to attend. However, three from the Alabama School of Mathematics and Science were participating in a national competition with their winning SuperQuest team and were unable to attend the EIS Summer Institute. Another Alabama teacher had prior commitments and could not attend. Mr. Richard Butcke attended representing Alabama and also served as an instructor for the EIS Summer Institute. A list of designated EIS participants and actual attendees is given in Attachment A-3.

EiS Instructors

Three Alabama teachers experienced in training teachers in computational science/supercomputing and in implementing successful supercomputing programs into high school curricula served as lead instructors for the EiS program: Ms. Gina Sullivan, Bob Jones High School, Madison, Alabama; Mr. Richard Butcke, Homewood High School, Homewood, Alabama; and Mr. Gary Harper, Andalusia High School, Andalusia, Alabama. Additional instruction was provided by Alabama Supercomputer Network (ASN) staff: Ms. Sharon Carruth, Ms. Ann Hernandez, Mr. Wade McLean, and Ms. Donna Klecka.

EiS Summer Training Lab

The EiS Summer Institute hosted by the University of Alabama in Huntsville, the Alabama Supercomputer Authority, and Nichols Research Corporation was held at the George C. Wallace Supercomputer Center in Huntsville, Alabama. Twenty-one of the 31 IBM clones purchased for the EiS RTCs were configured and used during the institute. The teachers were trained on the equipment and in the use of software that they would use in the classroom. All of the computers were connected to an ethernet LAN, the Alabama Supercomputer Network, and Internet. The participants received accounts on the ASN Cray C94 and nCUBE as well as on the NASA Project LASER Sun workstations located at UAH.

Software installed & used during the training:

Public Domain

- Mosaic
- Cello
- FTP Client
- TurboGopher
- CU-See-Me
- Wireman
- Climoman
- CShow
- LView
- HTML Assistant

Commercial Packages

- Microsoft Office
- MSWord
- Excel
- PowerPoint
- MSMail

2) Fall Follow-up Workshop

The EiS Follow-up Workshop was held September 29 – 30, 1994. Dr. Johnny Arnold, Executive Director of the Tri-State Education Consortium, and Mr. Bobby Lowery, EiS Lead Teacher, Tishomingo County Magnet High School, hosted the workshop at the Tri-State Learning Center, located on the Tishomingo High School Campus, using the new lab of 18 PCs. The six Mississippi teachers (who will also use this lab for some of their workshops) benefited tremendously from this opportunity to use the lab equipment. An agenda and the attendee list for the fall workshop are provided in Attachment A-4.

3) Regional Training Center Workshops On-site (Two in Arkansas, Two in Mississippi, One in Tennessee)

Each EiS site held an introductory workshop to the Internet and its resources during the fall. The workshops were scheduled at the convenience of the sites during the October 1 – December 7, 1994 time period. ASA/NRC personnel were on-site to assist with these workshops. ASA/NRC developed the EiS RTC manual used in these workshops. Twenty-five manuals and sets of workshop materials were supplied to each RTC site on September 30, 1994. Each EiS RTC workshop was led by the EiS RTC Lead Teachers. ASA/NRC Education Specialists were on-site to assist with the workshop. Applications, agendas, and letters of invitation were mailed to school districts surrounding each RTC site by the ASA/NRC Educational Specialists. The maximum number of participants was limited by the equipment available at the various sites.

EiS RTC workshops were held on the following dates:

Biggersville High School Biggersville, Mississippi	October 25, 1994
DeValls Bluff High School DeValls Bluff, Arkansas	November 2, 1994
Conway High School Conway, Arkansas	November 3, 1994
Tishomingo County High School Iuka, Mississippi	November 7, 1994
Adamsville High School Adamsville, Tennessee	December 7, 1994

The EiS RTC participant applications, agendas, and instructor lists for each workshop are provided in Attachment A-5. A master list of all EiS RTC participants is provided in Attachment A-6.

An informal ASA/NRC evaluation of the EiS RTC workshops was done in cooperation with the Tri-State Education Consortium. The form that Tri-State Education Consortium distributes to participants in their workshops was adapted for the other EiS workshops in order to have consistency in the responses from participants.

A summary of the responses and comments made by participants is provided in Attachment A-7. All workshops received a majority of high marks from participants.

4) On-site Visits to Schools (Minimum of Four Visits to Each of the Six Schools Located in Arkansas, Mississippi, and Tennessee)

Each of the six schools in Arkansas, Mississippi, and Tennessee were visited a minimum of four times by Brian Stewart, Network Analyst, and by Education Specialists, Ann Hernandez and Sharon Carruth. These visits were arranged to accommodate the needs of the teachers and provided time for troubleshooting, curricula consultation, technical support and allowed the needs of specific school districts to be addressed. Specific dates of visits to each site follow.

Biggersville High School Biggersville, Mississippi	June 24; August 18; October 9, 25; November 21, 30; December 2
DeValls Bluff High School DeValls Bluff, Arkansas	July 12; August 25; October 9; November 2; December 8
Conway High School Conway, Arkansas	July 12; August 25; September 8,10; November 3; December 9
Tishomingo County High School Iuka, Mississippi	June 24; August 24; September 2,7,16,19,29,30; October 25; November 7; December 2
Adamsville High School Adamsville, Tennessee	July 11; October 4; December 2, 5, 6, 7
Giles County High School Pulaski, Tennessee	September 23; December 8, 15, 19

5) Coordination and Facilitation of Internet Connections for the Six Schools Located in Arkansas, Mississippi, and Tennessee.

Coordination of the network connections began on June 1 and was completed on June 27, 1994. Mr. Brian Stewart worked closely with each school to determine the configuration that best suited their site. Each site is sharing in the costs of supplying the connection or has agreed to assume the costs of the network connection at the end of the funding period. A diagram of each configuration is given in Attachment A-8.

The type of Internet connection for each site is listed below.

Arkansas:

Conway High School and DeValls Bluff High School:
8 PCs (EiS funded) 56Kb line (state funded)

Status of Network: 56Kb lines in place and PCs have been connected at each site.

Mississippi:

Tishomingo County Magnet School:
7 PCs (EiS funded) 56Kb line connected to existing 56Kb line funded by Tri-State Education Consortium.

Biggersville High School:
8 PCs (EiS funded) 56Kb line funded by school system at end of grant.
School systems are funding regular phone line and modems to three other schools for teachers that attended in support of the Mississippi RTC sites.

Status of Network: 56Kb lines in place & PCs have been connected.

Explorations in Supercomputing (EiS) 1994

Funded by : NASA Marshall Space Flight Center

ASA/NRC EIS Timetable

TASK 2: EIS 1994 Summer Institute Planning & Organization				Start Date: June 1, 1994
TASK LEADER: Sharon Carruth				Completion Date: August 5, 1994
Subtask	Start Date	Completion Date		
1. Initial contacts with schools to determine participants, info for participant list - Sharon Carruth	June 1, 1994	June 10, 1994 ✓		
2. Develop logo, workshop schedule & draft letter of invitation, maps & guest letter - Ann Hernandez	June 1, 1994	June 13, 1994 ✓		
3. Submit list of workshop materials to be ordered by UAH - Sharon Carruth	June 6, 1994	June 6, 1994 ✓		
4. Coordinate participant travel, meals & lodging with UAH - Ann Hernandez	June 7, 1994	June 13, 1994 ✓		
5. Prepare packet of EiS info to mail to participants - Ann Hernandez & Debbie Moore	June 7, 1994	June 15, 1994 June 10, 1994 ✓		
6. Contact EiS instructors & prepare contracts - Sharon Carruth	June 8, 1994	June 15, 1994 ✓		

(✓) Checked Dates are Actual Completion Dates

Explorations in Supercomputing (EiS) 1994

Funded by : NASA Marshall Space Flight Center

ASA/NRC EiS Timetable

TASK 2: EiS 1994 Summer Institute Planning & Organization			Start Date: June 1, 1994
(continued)			
TASK LEADER: Sharon Carruth			Completion Date: August 5, 1994
Subtask	Start Date	Completion Date	
7. Submit list of participants to UAH & ASA/NRC for accounts - Sharon Carruth	June 13, 1994	June 13, 1994 June 14, 1994 ✓	
8. Planning meeting with EiS instructors, teaching assignments, activities - Sharon Carruth	June 15, 1994	June 15, 1994 ✓	
9. Preparation of EiS workshop packets(mugs, posters, pens..etc) - Ann Hernandez	July 11, 1994	July 15, 1994 July 14, 1994 ✓	
10. Preparation of conference room - Ann Hernandez	July 11, 1994	July 15, 1994 July 16, 1994 ✓	
11. Assisting, monitoring & instructing during the workshop - Sharon Carruth, Ann Hernandez, Donna Klecka, Wade McLean	July 18, 1994	July 29, 1994 ✓	
12. Preparation of shipping forms & labels - Ann Hernandez	July 26, 1994	July 29, 1994 ✓	

(✓) Checked Dates are Actual Completion Dates

Explorations in Supercomputing (EiS) 1994

Funded by : NASA Marshall Space Flight Center

ASA/NRC EiS Timetable

TASK 2: EiS 1994 Summer Institute Planning & Organization Start Date: June 1, 1994 (concluded)			
TASK LEADER: Sharon Carruth		Completion Date: August 5, 1994	
Subtask	Start Date	Completion Date	
13. Coordinate CEU credit with UAH - Ann Hernandez	July 26, 1994	July 29, 1994 ✓	
14. Submit attendance, course evaluation sheets, and workshop information to Paul Duggan - Sharon Carruth	August 1, 1994	August 5, 1994 ✓	

(✓) Checked Dates are Actual Completion Dates

Explorations in Supercomputing (EIS) 1994

Funded by : NASA Marshall Space Flight Center

ASA/NRC EIS Timetable

TASK 3: Networking & Equipment Ordering, Installation, & Support			Start Date: June 8, 1994
TASK LEADER: Brian Stewart			Completion Date: December 31, 1994
Subtask	Start Date	Completion Date	
1. Network Analyst Support (146 Hours)	June 8, 1994	December 1994 ✓	
2. Initial contacts with schools to determine networking needs.	June 8, 1994	June 17, 1994 June 22, 1994 ✓	
3. Contact phone companies to determine cost & when to place order for 56Kb lines to sites.	June 8, 1994	June 17, 1994 ✓	
4. Collect bids, prepare PRs & Order PCs & Routers	June 8, 1994	June 13, 1994 June 21, 1994 ✓	
5. Submit monthly reports to Paul Duggan on networking, equipment & support provided to EIS participants	June 8, 1994	December 1994 ✓	
6. Site visit to Adamsville, Biggersville & Tishomingo	June 20, 1994	June 24, 1994 ✓	
7. Order 56Kb lines	June 30, 1994	June 30, 1994 ✓	
8. Order network equipment	July 15, 1994	July 15, 1994 ✓	

(✓) Checked Dates are Actual Completion Dates

Explorations in Supercomputing (EiS) 1994

Funded by : NASA Marshall Space Flight Center

ASA/NRC EIS Timetable

TASK 3: Networking & Equipment Ordering, Installation, & Support (concluded)		
TASK LEADER: Brian Stewart		
Start Date: June 8, 1994		Completion Date: December 31, 1994
Subtask	Start Date	Completion Date
9. Ship PCs to sites	August 1, 1994	August 1, 1994 August 5, 1994 ✓
10. Install network	August 15, 1994	August 31, 1994 ✓
11. Test/Debug	September 1, 1994	October 15, 1994 ✓
12. "On line," connected to Internet	October 15, 1994	October 15, 1994 ✓
13. Monitor & maintain network connections	October 15, 1994	December 1994 ✓

(✓) Checked Dates are Actual Completion Dates

Explorations in Supercomputing (EiS) 1994

Funded by : NASA Marshall Space Flight Center

ASA/NRC EiS Timetable

TASK 4: EiS 1994 RTC Manuals, Development & Revisions			Start Date: July 1, 1994
TASK LEADER: Ann Hernandez			Completion Date: September 30, 1994
Subtask	Start Date	Completion Date	
1. Design EiS 1994 RTC logos maps of EiS RTC regions - Ann Hernandez	July 1, 1994	July 8, 1994 August 8, 1994 ✓	
2. Coordinate with Pubs for ordering binders, transparencies, printing schedule - Sharon Carruth	July 1, 1994	July 13, 1994 August 8, 1994 ✓	
3. Revise last year's manual to reflect Cray C94, new material and site info - Ann Hernandez, Sharon Carruth	July 1, 1994	September 1, 1994 August 19, 1994 ✓	
4. Design manual covers - Ann Hernandez	July 1, 1994	July 29, 1994 August 8, 1994 ✓	
5. Submit status on revision & printing of EiS RTC manuals to Paul Duggan - Ann Hernandez	July 1, 1994	September 30, 1994 August 19, 1994 ✓	
6. Print manuals - Sue Delary	August 19, 1994	September 23, 1994 Sept. 12, 1994 ✓	
7. Mail manuals to RTC sites - Ann Hernandez & Sue Delary	September 26, 1994	September 30, 1994 Nov. 18, 1994 ✓	

(✓) Checked Dates are Actual Completion Dates

Explorations in Supercomputing (EiS) 1994

Funded by : NASA Marshall Space Flight Center

ASA/NRC EiS Timetable

TASK 5: EIS 1994 Phone & E-mail Support		Start Date: July 11, 1994
TASK LEADER: Ann Hernandez		Completion Date: December 31, 1994
Subtask	Start Date	Completion Date
1. Set up an EiS reflector - Sharon Carruth	July 11, 1994	July 11, 1994 August 5, 1994 ✓
2. EiS phone & e-mail support monitor and respond - Ann Hernandez, Sharon Carruth	August 1, 1994	December 1994 ✓
3. Coordinate update list of EiS participants accounts with UAH to keep reflector current & working effectively - Ann Hernandez	August 1, 1994	December 1994 ✓
4. Maintain a log of EiS phone & e-mail assistance requests - Ann Hernandez & Debbie Moore	August 1, 1994	December 1994 ✓
5. Submit report of phone & e-mail support end of each month - Ann Hernandez & Debbie Moore	August 1, 1994	December 1994 ✓

(✓) Checked Dates are Actual Completion Dates

Explorations in Supercomputing (EiS) 1994

Funded by : NASA Marshall Space Flight Center

ASA/NRC EiS Timetable

TASK 6: EiS 1994 Fall Follow-up Workshop, Planning & Organization			Start Date: July 17, 1994
TASK LEADER: Ann Hernandez			Completion Date: October 12, 1994
Subtask	Start Date	Completion Date	
1. Set date of workshop - Ann Hernandez	July 17, 1994	July 29, 1994 August 5, 1994 ✓	
2. Develop agenda, draft letter of invitation, maps & guest letter - Sharon Carruth	August 1, 1994	August 12, 1994 August 5, 1994 ✓	
3. Submit list of workshop materials to be ordered by UAH - Sharon Carruth	August 1, 1994	August 1, 1994 August 9, 1994 ✓	
4. Coordinate participant travel, meals & lodging with UAH - Ann Hernandez	August 3, 1994	August 3, 1994 August 9, 1994 ✓	
5. Prepare packet of EiS info to mail to participants & mail - Ann Hernandez & Debbie Moore	August 3, 1994	August 12, 1994 August 18, 1994 ✓	
6. Host workshop (1.5 days) Last week of September - Sharon Carruth, Ann Hernandez	September 30, 1994	September 30, 1994 ✓	
7. Submit report on attendance, workshop information - Ann Hernandez	October 12, 1994	October 12, 1994 ✓	

(✓) Checked Dates are Actual Completion Dates

Explorations in Supercomputing (EiS) 1994

Funded by : NASA Marshall Space Flight Center

ASA/NRC EiS Timetable

TASK 7: EiS 1994 RTC Workshops, Coordination, Planning & Organization (Five Sites)			Start Date: August 1, 1994
TASK LEADER: Sharon Carruth			Completion Date: December 12, 1994
Subtask	Start Date	Completion Date	
1. Initial contacts with schools to set dates & determine participant mailing area - Sharon Carruth	August 1, 1994	September 30, 1994 August 5, 1994 ✓	
2. Draft agendas, letters of invitation, & EiS RTC applications, maps - Ann Hernandez, Debbie Moore	August 1, 1994	September 30, 1994 Sept. 19, 1994 ✓	
3. Submit list of workshop materials to be ordered by UAH - Sharon Carruth	August 15, 1994	August 15, 1994 August 9, 1994 ✓	
4. Coordinate participant & instructor stipends with UAH - Ann Hernandez	August 15, 1994	September 30, 1994 Dec. 7, 1994 ✓	
5. Prepare & mail packet of EiS RTC info to participants - Ann Hernandez & Michelle Toop	August 17, 1994	September 30, 1994 Nov. 18, 1994 ✓	
6. Assist RTC sites in reviewing applications - Sharon Carruth	October 1, 1994	December 1, 1994 Dec. 1, 1994 ✓	

(✓) Checked Dates are Actual Completion Dates

Explorations in Supercomputing (EiS) 1994

Funded by : NASA Marshall Space Flight Center

ASA/NRC EiS Timetable

TASK 7: EiS 1994 RTC Workshops, Coordination, Planning & Organization (Five Sites) (concluded)			Start Date: August 1, 1994
TASK LEADER: Sharon Carruth			Completion Date: December 12, 1994
Subtask	Start Date	Completion Date	
7. Planning meeting with EiS instructors, teaching assignments, activities, on site - Sharon Carruth, Ann Hernandez	October 1, 1994	November 15, 1994 Nov. 7, 1994 ✓	
8. Prepare EiS workshop packets & mailing - Ann Hernandez & Michelle Toop	October 1, 1994	October 15, 1994 Nov. 18, 1994 ✓	
9. Coordinate acceptance letters with UAH - Ann Hernandez	October 1, 1994	November 1, 1994 Dec. 7, 1994 ✓	
10. Assist, monitor & instruct RTC workshops - Sharon Carruth, Ann Hernandez	October 15, 1994	December 9, 1994 Dec. 7, 1994 ✓	
11. Submit list of participants to UAH for accounts - Sharon Carruth	October 15, 1994	November 1, 1994 Dec. 7, 1994 ✓	
12. Submit status of RTC activities - Sharon Carruth	October 15, 1994	December 12, 1994 Dec. 8, 1994 ✓	

(✓) Checked Dates are Actual Completion Dates

Explorations in Supercomputing (EiS) 1994

Funded by : NASA Marshall Space Flight Center

ASA/NRC EiS Timetable

TASK 8: EiS 1994 On-Site Visitation		Start Date: September 1, 1994
TASK LEADER: Sharon Carruth		Completion Date: December 31, 1994
Subtask	Start Date	Completion Date
1. Contact sites to set dates to visit each EiS RTC site - Sharon Carruth	September 1, 1994	September 9, 1994 Sept. 1, 1994 ✓
2. Actual visits (three per site) - Sharon Carruth, Ann Hernandez	September 1, 1994	December 31, 1994 Dec. 19, 1994 ✓
3. Report status of on-site visits - Sharon Carruth, Ann Hernandez	September 1, 1994	December 31, 1994 Dec. 19, 1994 ✓

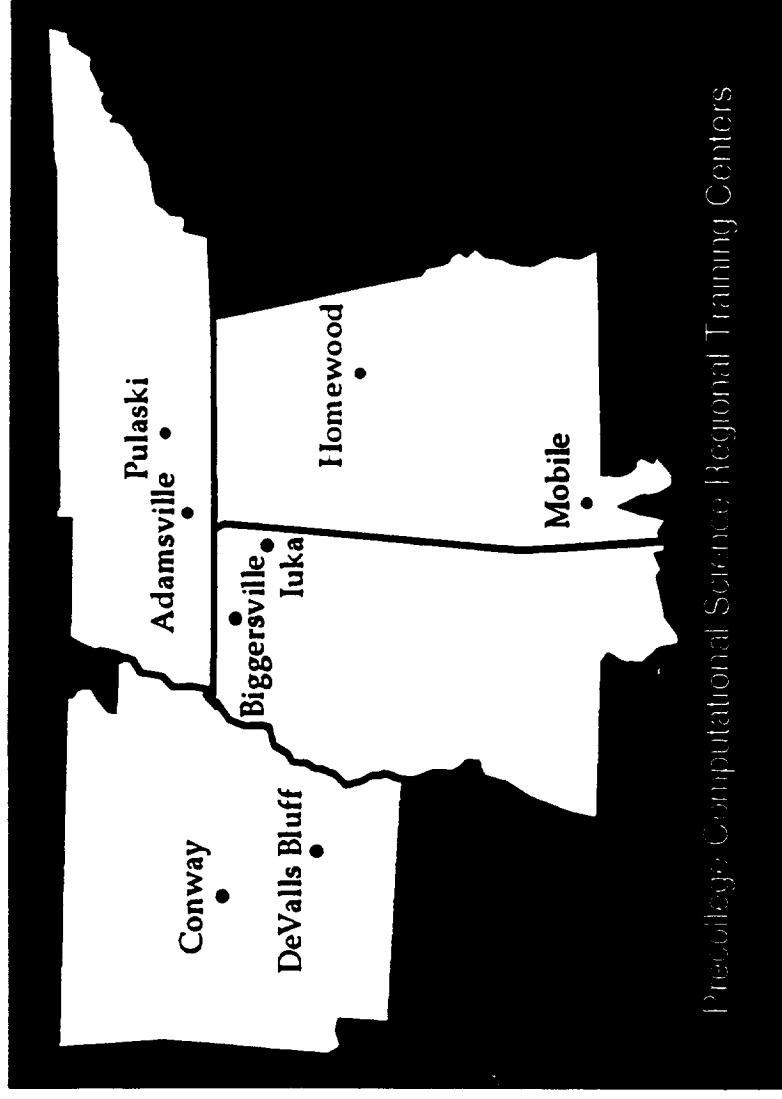
(✓) Checked Dates are Actual Completion Dates

EiS Summer Institute Schedule

Attachment A-2

Explorations in Supercomputing

Teacher Training Program • Summer Institute 1994



Funded by:
NASA Marshall Space Flight Center

Supported by:
University of Alabama in Huntsville
Alabama Supercomputer Authority
Nichols Research Corporation



Explorations in Supercomputing

University of Alabama in Huntsville / Alabama Supercomputer Authority/Nichols Research Corporation

Coordinators
Sharon Carruth
Ann Hernandez

Instructors
Gina Sullivan
Gary Harper
Richard Butcke

Teacher Training Program • Summer Institute 1994

	SUNDAY July 17	MONDAY July 18	TUESDAY July 19	WEDNESDAY July 20	THURSDAY July 21	FRIDAY July 22
MORNING 9:00-12:00		<p>Welcome & Introductions -Sharon Carruth -Gina Sullivan -Guest Speakers</p> <p>Introduction to EIS What is EIS? Goals Expectations Evaluation & Assessment ASA Tour -Wayne Whitmore</p> <p>Internet Resources What is Internet? Introduction to Cello -Denna Klecka</p>	<p>Unix-Files & Directories -Gary Harper -Gina Sullivan</p> <p>Creating, Removing, Organizing</p> <p>Transferring Files-FTP -Gary Harper -Gina Sullivan</p> <p>Archie Anonymous FTP's How to search thru remote directories Downloading Files</p>	<p>Quick Review of Terms -Gina Sullivan -Richard Butcke</p> <p>Basic Unix Commands & Basics of FORTRAN</p> <p>FORTRAN(cont.) Order of Operations Fortran Expressions Taking Roots of No.s Mixed Mode Arithmetic GOTO Writing to a File Computational Science Project Development SpreadSheet</p>	<p>Fortran (cont.) -Richard Butcke -Gina Sullivan</p> <p>DO Loops Nested DO Loops Dimension Statements Input/Output of Arrays Legal Subscripts</p>	<p>Scientific Visualization (NERSC Applications) -Richard Butcke -Gary Harper</p>
AFTERNOON 1:00-6:30	<p>4:00pm</p> <p>Welcome- Sharon Carruth -Gina Sullivan</p> <p>Machine Set-up -Ann Hernandez -Gary Harper</p> <p>PC Basics-Ann Hernandez -Gary Harper -Richard Butcke</p> <p>Load Software</p>	<p>Purpose of High Performance Computers -Gina Sullivan</p> <p>What is Computational Science??</p> <p>What is a Super-computer? (nCUBE/Cray)</p> <p>How do you connect to a Supercomputer??</p> <p>Accessing the Network- -Richard Butcke</p> <p>Logon, Telnet, etc. Electronic Mail - PINE On-Line Editor- PICO Beginning UNIX</p>	<p>Basics of FORTRAN -Richard Butcke -Gina Sullivan</p> <p>History Compile, Load, Run Developing Programs Column Syntax Comment, Print, Read Program Statement Stop, End Statements Character Statements Variable Names & Types Arithmetic Operators Assignment Statements Data Declaration</p>	<p>FORTRAN(cont.) -Richard Butcke -Gary Harper</p> <p>If Statements Relational Operators Nested Decisions Logical AND/OR Intrinsic Functions</p> <p>Computational Science Sample Project</p> <p>Transferring Files -Gary Harper</p>	<p>FORTRAN(cont.) -Gina Sullivan -Gary Harper</p> <p>Data Statements Formal Statements Multi-dimensional arrays Implied Do's</p> <p>Computational Science Project Development</p> <p>Teaching Techniques</p>	<p>FORTRAN (cont.) -Richard Butcke -Gary Harper</p> <p>LAB</p>
EVENING 6:30-9:00	<p>Welcome Cookout Bevill Center 7:00pm</p>	<p>Teaching Supercomputing to High School Students -Gina Sullivan -Gary Harper</p> <p>UNIX Lab-Creating, Saving & Editing Files</p>	<p>FORTRAN (cont.) -Richard Butcke LAB</p>	<p>Review of Unix -Gary Harper</p> <p>Writing a Course Outline & Lesson Plans</p>	<p>Dinner Out</p>	<p>Evening Out</p>

Sponsored by NASA Marshall Space Flight Center

WEEK I



Explorations in Supercomputing

University of Alabama in Huntsville / Alabama Supercomputer Authority/Nichols Research Corporation

Teacher Training Program • Summer Institute 1994

Coordinators
Sharon Carruth
Ann Hernandez

Instructors
Gina Sullivan
Gary Harper
Richard Butcke

	SUNDAY July 24	MONDAY July 25	TUESDAY July 26	WEDNESDAY July 27	THURSDAY July 28	FRIDAY July 29
MORNING 9:00-12:00		FORTRAN (cont.) Review & Lab -Gina Sullivan -Gary Harper	Scientific Visualization -Donna Klecka -Gary Harper Project Development Nasa SpaceLink -Bill Anderson, NASA Jeff Eilmen, NASA	Review of Course Descriptions, Outlines, & Lesson Plans -Gary Harper -Richard Butcke Turn In: Course Description Course Outline Lesson Plan	FORTRAN Lab (Catch-Up Time) -Gina Sullivan -Richard Butcke	Plans for the Future -Sharon Carruth -Ann Hernandez Teacher Presentations <i>Turn in lesson plans, etc. on a DISKETTE</i> -Gary Harper -Ann Hernandez
AFTERNOON 1:00-6:30	Lab Will be Open -Sharon Carruth -Gary Harper	FORTRAN (cont.) -Gina Sullivan -Richard Butcke Subroutines Functions	Scientific Visualization -Donna Klecka -Richard Butcke Project Development	Parallelization Techniques -Wade McClean -Gina Sullivan Parallel Processing Sample Programs	Advanced Topics & Class Projects -Gary Harper -Gina Sullivan -Wrling Lab Developing a Time Line Revision of Course Descriptions, Outlines & Lesson Plans Evaluations-UAH Expense Forms & Letters -UAH	Wrap - Up & Closing Remarks -Ann Hernandez
EVENING 8:30-9:00		Network Resources -Richard Butcke	Application Lab -Gina Sullivan Work on Lesson Plans	NIGHT OUT	Network Resources -Gary Harper	

Sponsored by NASA Marshall Space Flight Center

WEEK 2

EiS Summer Participant List

Attachment A–3

Explorations in Supercomputing (EiS)

EiS Designated Participant List

(Actual number of EiS designated participants in attendance during the EiS 1994 Summer Institute: 15)

Mississippi (6 Mississippi)

Ed Settles, Biggersville High School
Anise Jones, Kossuth High School
Maxine Henson, Alcorn Central High School
Bobby Lowrey, Tishomingo High School
Steve Cain, Belmont High School
Jack Jones, Ripley Middle School

Arkansas (5 teachers)

Liza Allen, Conway High School
Liz Tyler, Conway High School
Will Meriwether, Conway High School
Mary Jo Gray, DeValls Bluff High School
Caroline Gershner, DeValls Bluff High School

Tennessee (3 teachers)

Allen Bruce, Adamsville High School
Brian Jackson, Adamsville High School
Jean Bryan, Giles County High School

Alabama (5 teachers)

*Tamalyn Jenkins, Homewood High School **
Richard Butcke, Homewood High School
*Albert Lilly, ASMS (Also here for SuperQuest)**
*Alice Peters, ASMS (Also here for SuperQuest)**
*Susan Rouillier, ASMS **

* Did not attend this institute. Attended last summer. SuperQuest winners this summer attended similar institute for winning national competition.

Subcontracted

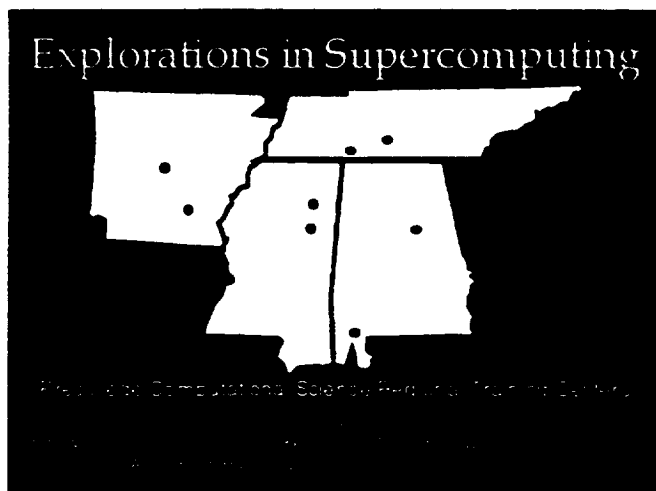
Instructors: Richard Butcke
Gary Harper
Gina Sullivan

ASN Instructors:

Sharon Carruth
Ann Hernandez
Donna Klecka
Wade McClean

EiS Fall Follow-up Workshop Agenda

Attachment A—4



Fall Follow-up Workshop

Hosted by:
**Tri-State Education Consortium
Tishomingo County High School
Iuka, Mississippi**

September 30, 1990

8:30am-3:00pm

Agenda

Welcome

**Dr. Johnny Arnold
Executive Director
Tri-State Education Consortium**

**Mr. Stanley Magill
Acting Superintendent
Tishomingo County School System**

Overview of EiS RTC Workshops & Agenda

**Sharon Carruth
EiS Project Manager
Nichols Research Corporation**

Review & Walk-Thru of EiS RTC Manuals & Lab Exercises

**Ann Hernandez
EiS Project Coordinator
Nichols Research Corporation
&**

EiS RTC Teachers will lead session on various topics

**Review of Computational Science Topics
(As requested by EiS Teachers)
NRC Staff**

**Question & Answer Session
NRC Staff & EiS Teachers**

Explorations in Supercomputing (EiS)

Fall Follow-Up Workshop Participants

Mississippi

- 1)Ed Settles, Biggersville High School
- 2)Anise Jones, Kossuth High School
- 3)Maxine Henson, Alcorn Central High School
- 4)Bobby Lowrey, Tishomingo High School
- 5)Steve Cain, Belmont High School
- 6)Jack Jones, Ripley Middle School

Arkansas

- 7)Liza Allen, Conway High School
- 8)Liz Tyler, Conway High School
- 9)Will Meriwether, Conway High School
- 10)Mary Jo Gray, DeValls Bluff High School
- 11)Caroline Gershner, DeValls Bluff High School

Tennessee

- 12)Allen Bruce, Adamsville High School
- 13)Brian Jackson, Adamsville High School
- 14)Jean Bryan, Giles County High School

Alabama

- 15)Richard Butcke, Homewood High School

Instructors

- 16)Sharon Carruth, NRC
- 17)Ann Hernandez, NRC

Guests

- 18)Dr. John Arnold, TSEC
- 19)Dr. David Powe, NASA
- 20)Mr. Stanley Magill, Superintendent, Tishomingo County Schools

EiS RTC Workshops

Attachment A–5

Explorations in Supercomputing (EiS)

Biggersville High School EiS RTC Introductory Workshop

October 25, 1994

Lead Teachers:

**Ed Settle
Maxine Henson
Anise Jones**

Agenda

Welcome

Introductions

Overview of EiS Program

**What is EiS?
What is an RTC?
Goals
Funding
What is Computational Science?**

Overview of State Program

Goals of State Program

Information Superhighway

**What is Internet
How do you Connect?
What is an Account or Internet Address?**

E-Mail

**What is E-mail?
How to Send E-mail
How to Read E-mail
How to Reply to E-mail
How to Save Messages
How to Delete Messages
How to Use Address Book**

Lunch

Internet Resources

**Mosaic
Cello
Creating Home Pages
FTP Clients
Gopher
Archie**

Dial-In Access

DISTRIBUTE TO ALL 9-12 MATH, SCIENCE & COMPUTER PROGRAMMING TEACHERS

TO: Mathematics and Science Teachers, Grades 9-12
FROM: Explorations in (EiS) Program
RE: Free Workshop, Introduction to Computational Science, Supercomputing & Internet Resources
DATE: September 13, 1994

You are invited to apply for participation in the upcoming workshop, **Introduction to Computational Science, Supercomputing & Internet Resources**, which will be hosted by Biggersville High School. The date for the workshop is **October 25, 1994, from 8:30 am to 3:00 pm**. It will be held at:

Biggersville High School
Route 4, Highway 45 South
Corinth, MS 38834
(601) 286-3542

This workshop, funded by NASA Marshall Space Flight Center, is jointly sponsored by The University of Alabama in Huntsville, Alabama Supercomputer Authority, and Nichols Research Corporation. The presentation is designed to introduce K-12 teachers to the field of Computational Science. It offers hands-on experience in using supercomputers in the classroom to enhance science and mathematics courses. It also provides an introduction to the world of computer networks which are used to communicate, to investigate, and to exchange class projects with teachers and students around the world via the Internet.

Accounts on the Internet and supercomputer will be provided free to all participants and will remain active and free of charge for as long as you wish to use them in your classroom.

In order to access the Internet from the classroom, each teacher will need a phone line, a 1200 or 2400 baud modem, and a computer to connect to the modem. The materials will run on either a Macintosh or an IBM compatible with a VGA monitor. An 800 toll-free number has been donated by the Tri-State Education Consortium and NASA for use by the schools which do not have local access. *Therefore, if your school has the phone line, modem, and computer in place, there is no cost to your school system for the connection.*

Enrollment is limited to sixteen participants. Registration will occur as applications are received. To ensure your participation, return the attached application **no later than October 7, 1994**. A small stipend will be paid to each participating teacher to assist in covering meals and travel costs.

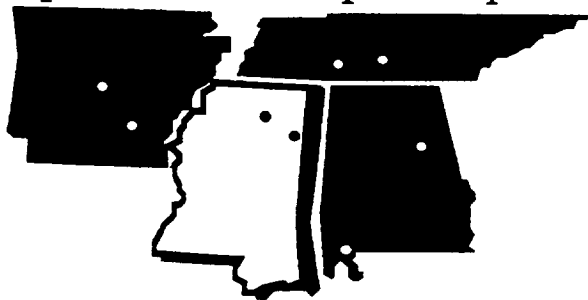
We look forward to having you participate in the EiS program. If you have any questions please contact one of the persons listed below:

Ed Settle
Route 4, Highway 45 South
Corinth, MS 38834
(601) 286-3542

Sharon Carruth
686 Discovery Dr.
Huntsville, AL 35806
(205) 971-7434

Ann Hernandez
686 Discovery Dr.
Huntsville, AL 35806
(205) 971-7437

Explorations in Supercomputing



Precollege Computational Science Regional Training Centers

Please return application by October 7 to the following address:

Explorations in Supercomputing
ATTN: Sharon Carruth
686 Discovery Drive
Huntsville, AL 35806
205-971-7434
FAX: 205-971-7491

Workshop will be held at:
Biggersville High School
Biggersville, Mississippi: October 25, 1994

School System Information

School Information

School Name:

Street Address:

City, State, Zip:

School Phone:

School FAX:

Principal's Name:

System or District:

County:

Superintendent Name

Street Address

City, State, Zip

Phone Number:

Fax Number:

Is the school: ☐ Public ☐ Private

Participation Agreement

In order to participate in the EiS supercomputing program, your school must provide the following for a connection to the Alabama Supercomputer Network at the school for use by teachers and students:

- A phone line & modem to the classroom which will be used to connect to the supercomputer network.
- An IBM or compatible or Apple Macintosh personal computer & communication software to serve as the connection.

Each teacher attending the workshops will be provided with an Internet account at no charge. All materials for the workshops will be provided at no cost to the system. Time on the supercomputer will be provided at no cost to the school system. There is an 800 number for schools making long-distance calls.

As the _____ of
(principal, headmaster, superintendent)

_____, I certify that
(school/school system),

_____ and _____
(two teachers)

have accurately responded to this application, and I certify (based on current staffing plans) that they will be teaching at this school during the 1994-95 school year and that they will be allowed to attend a workshop to train teachers in supercomputing, in the development of computational science and/or math projects and Internet resources.

I also certify that access to the Alabama Supercomputer Network will be provided from the school lab if it is not already in place. I understand that the minimum acceptable access to the Alabama Supercomputer Network will require a phone line to a classroom, a modem, and a personal computer (MS-DOS or Macintosh) with terminal emulation software. I also understand that travel for participants, refreshments, materials, and supplies for the workshop, including copies of public domain software demonstrated will be provided by the University of Alabama in Huntsville to the teacher attending the workshop at no charge to my school.

Signature of Principal/Headmaster/Supt. Date

Teacher Information/ Background

Teacher Name:

Street Address:

City, State, Zip:

Home Phone:

SSN:

Areas of Certification:

Education

University

Degree

Year

Total Number of Years
Teaching Experience:

Total Number of Years
at Current School:

Areas in which currently teaching
Grade Level of students being taught:

Programming Experience

Please check the best description for your level of experience with the following languages:

Language	None	Minimal	Moderate	Extensive	Have Taught This Course
FORTRAN	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> at _____
Pascal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> at _____
BASIC	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> at _____
C	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> at _____

Other languages or applications:

What types of computers have you used, if any?

Into which class will you implement this computational science curriculum and Internet resources during the 1994-95 school year?

For the EiS Supercomputing program to be successful, participants must return to their schools and involve students and other teachers in the use of Internet, computational science and math projects. Explain why you feel you can be successful in getting other teachers and students involved in computational science and math projects during the 1994-95 school year. Attach additional sheets as necessary.

The establishment of a connection to the Alabama Supercomputer Network will allow participating teachers to become familiar with the equipment and its use prior to its use in the classroom. Please discuss your school's plans to provide a computer and phone line to establish this connection. List the equipment that the school currently has which will meet these needs. Attach additional sheets as necessary.

Explorations in Supercomputing (EiS)

DeValls Bluff EiS RTC Introductory Workshop

November 2, 1994

**Lead Teachers:
Mary Jo Gray
Carolyn Gershner**

Agenda

Welcome

Introductions

Overview of EiS Program

What is EiS?

What is an RTC?

Goals

Funding

What is Computational Science?

Overview of State Program

Goals of State Program

Information Superhighway

What is Internet

How do you Connect?

What is an Account or Internet Address?

E-Mail

What is E-mail?

How to Send E-mail

How to Read E-mail

How to Reply to E-mail

How to Save Messages

How to Delete Messages

How to Use Address Book

Lunch

Internet Resources

Mosaic

Cello

Creating Home Pages

FTP Clients

Gopher

Archie

**DISTRIBUTE TO ALL 9-12 MATH, SCIENCE &
COMPUTER PROGRAMMING TEACHERS**

TO: Mathematics and Science Teachers, Grade 9-12
FROM: Explorations in Supercomputing (EiS) Program
RE: Free Workshop, Introduction to Computational Science, Supercomputing & Internet Resources
DATE: October 26, 1994

You are invited to apply for participation in the upcoming workshop, Introduction to Computational Science, Supercomputing & Internet Resources, which will be hosted by DeValls Bluff High School. The date for the workshop is November 2, 1994 from 8:30 am to 3:00 pm.

**DeValls Bluff High School
U.S. Hwy 70
DeValls Bluff, AR
(501) 998-2361**

This workshop, funded by NASA Marshall Space Flight Center, is jointly sponsored by The University of Alabama in Huntsville, Alabama Supercomputer Authority, and Nichols Research Corporation. The presentation is designed to introduce K-12 teachers to the field of Computational Science. It offers hands-on experience in using supercomputers in the classroom to enhance science and mathematics courses. It also provides an introduction to the world of computer networks which are used to communicate, to investigate, and to exchange class projects with teachers and students around the world via the Internet.

Accounts on the Internet and supercomputer will be provided free to all participants and will remain active and free of charge for as long as you wish to use them in your classroom.

In order to access the Internet from the classroom, each teacher will need a phone line, a 1200 or 2400 baud modem, and a computer to connect to the modem. The materials will run on either a Macintosh or an IBM compatible with a VGA monitor.

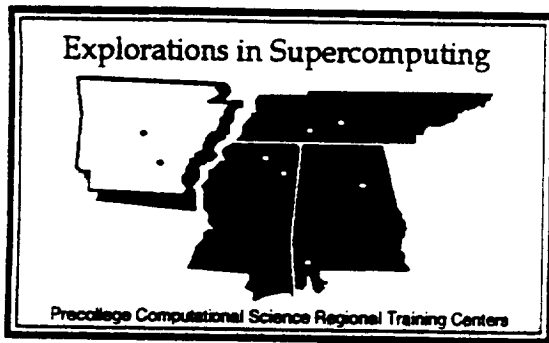
Enrollment is limited to sixteen participants. Registration will occur as applications are received. To ensure your participation, return the attached application no later than October 24, 1994. A small stipend will be paid to each participating teacher to assist in covering meals and travel costs.

We look forward to having you participate in the EiS program. If you have any questions please contact one of the persons listed below:

**Caroline Gershner
U.S. Hwy 70
DeValls Bluff, AR 72041
(501) 998-2361**

**Sharon Carruth
686 Discovery Dr.
Huntsville, AL 35806
(205) 971-7434**

**Ann Hernandez
686 Discovery Dr.
Huntsville, AL 35806
(205) 971-7437**



Please return application by October 24 to the following address:

Explorations in Supercomputing
ATTN: Sharon Carruth
686 Discovery Drive
Huntsville, AL 35806
205-971-7434
FAX: 205-971-7491

Workshop will be held at:
DeValls Bluff High School
US Highway 70
DeValls Bluff, Arkansas 72041

School System Information

School Information

School Name: _____

Street Address: _____

City, State, Zip: _____

School Phone: _____

School FAX: _____

Principal's Name: _____

System or District: _____

County: _____

Superintendent Name: _____

Street Address: _____

City, State, Zip: _____

Phone Number: _____

Fax Number: _____

Is the school: ☐ Public ☐ Private

Participation Agreement

In order to participate in the EiS supercomputing program, your school must provide the following for a connection to the Alabama Supercomputer Network at the school for use by teachers and students:

- A phone line & modem to the classroom which will be used to connect to the supercomputer network.
- An IBM or compatible or Apple Macintosh personal computer & communication software to serve as the connection.

Each teacher attending the workshops will be provided with an Internet account at no charge. All materials for the workshops will be provided at no cost to the system. Time on the supercomputer will be provided at no cost to the school system. There is an 800 number for schools making long-distance calls.

As the _____ of
(principal, headmaster, superintendent)

_____, I certify that
(school/school system),

_____ and _____
(two teachers)

have accurately responded to this application, and I certify (based on current staffing plans) that they will be teaching at this school during the 1994-95 school year and that they will be allowed to attend a workshop to train teachers in supercomputing, in the development of computational science and/or math projects and Internet resources.

I also certify that access to the Alabama Supercomputer Network will be provided from the school lab if it is not already in place. I understand that the minimum acceptable access to the Alabama Supercomputer Network will require a phone line to a classroom, a modem, and a personal computer (MS-DOS or Macintosh) with terminal emulation software. I also understand that travel for participants, refreshments, materials, and supplies for the workshop, including copies of public domain software demonstrated will be provided by the University of Alabama in Huntsville to the teacher attending the workshop at no charge to my school.

Signature of Principal/Headmaster/Supt. _____ Date _____

Teacher Information/ Background

Teacher Name: _____

Street Address: _____

City, State, Zip: _____

Home Phone: _____

SSN: _____

Areas of Certification: _____

Education

University _____

Degree _____

Year _____

Total Number of Years
Teaching Experience: _____

Total Number of Years
at Current School: _____

Areas in which currently teaching
Grade Level of students being taught: _____

Programming Experience

Please check the best description for your level of experience with the following languages:

Language	None	Minimal	Moderate	Extensive	Have Taught This Course
FORTRAN	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> at _____
Pascal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> at _____
BASIC	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> at _____
C	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> at _____

Other languages or applications: _____

What types of computers have you used, if any? _____

Into which class will you implement this computational science curriculum and Internet resources during the 1994-95 school year? _____

For the EiS Supercomputing program to be successful, participants must return to their schools and involve students and other teachers in the use of Internet, computational science and math projects. Explain why you feel you can be successful in getting other teachers and students involved in computational science and math projects during the 1994-95 school year. Attach additional sheets as necessary.

The establishment of a connection to the Alabama Supercomputer Network will allow participating teachers to become familiar with the equipment and its use prior to its use in the classroom. Please discuss your school's plans to provide a computer and phone line to establish this connection. List the equipment that the school currently has which will meet these needs. Attach additional sheets as necessary.

Explorations in Supercomputing (EiS)

Conway High EiS RTC Introductory Workshop

November 3, 1994

Lead Teachers:

**Liza Allen
Liz Tyler
Will Meriwether**

Agenda

Welcome

Introductions

Overview of EiS Program

What is EiS?

What is an RTC?

Goals

Funding

What is Computational Science?

Overview of State Program

Goals of State Program

Information Superhighway

What is Internet

How do you Connect?

What is an Account or Internet Address?

E-Mail

What is E-mail?

How to Send E-mail

How to Read E-mail

How to Reply to E-mail

How to Save Messages

How to Delete Messages

How to Use Address Book

Lunch

Internet Resources

Mosaic

Cello

Creating Home Pages

FTP Clients

Gopher

Archie

**DISTRIBUTE TO ALL 9-12 MATH, SCIENCE &
COMPUTER PROGRAMMING TEACHERS**

TO: Mathematics and Science Teachers, Grade 9-12
FROM: Explorations in Supercomputing (EiS) Program
RE: Free Workshop, Introduction to Computational Science, Supercomputing & Internet Resources
DATE: October 26, 1994

You are invited to apply for participation in the upcoming workshop, **Introduction to Computational Science, Supercomputing & Internet Resources**, which will be hosted by Conway High School. The date for the workshop is **November 3, 1994 from 8:30 am to 3:00 pm**.

Conway High School
2220 Prince Street
Conway, AR 72032
(501)450-4880

This workshop, funded by NASA Marshall Space Flight Center, is jointly sponsored by The University of Alabama in Huntsville, Alabama Supercomputer Authority, and Nichols Research Corporation. The presentation is designed to introduce K-12 teachers to the field of Computational Science. It offers hands-on experience in using supercomputers in the classroom to enhance science and mathematics courses. It also provides an introduction to the world of computer networks which are used to communicate, to investigate, and to exchange class projects with teachers and students around the world via the Internet.

Accounts on the Internet and supercomputer will be provided free to all participants and will remain active and free of charge for as long as you wish to use them in your classroom.

In order to access the Internet from the classroom, each teacher will need a phone line, a 1200 or 2400 baud modem, and a computer to connect to the modem. The materials will run on either a Macintosh or an IBM compatible with a VGA monitor.

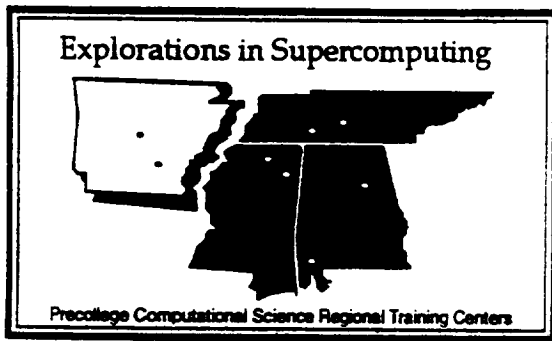
Enrollment is limited to sixteen participants. Registration will occur as applications are received. To ensure your participation, return the attached application no later than October 24, 1994. A small stipend will be paid to each participating teacher to assist in covering meals and travel costs.

We look forward to having you participate in the EiS program. If you have any questions please contact one of the persons listed below:

Liza Allen, Liz Tyler,
Will Meriwether
2220 Prince Street
Conway, AR 72032
(501)450-4880

Sharon Carruth
686 Discovery Dr.
Huntsville, AL 35806
(205) 971-7434

Ann Hernandez
686 Discovery Dr.
Huntsville, AL 35806
(205) 971-7437



Please return application by October 24 to the following address:

Explorations in Supercomputing
ATTN: Sharon Carruth
686 Discovery Drive
Huntsville, AL 35806
205-971-7434
FAX: 205-971-7491

Workshop will be held at:
Conway High School
2220 Prince Street
Conway, AR 72032

School System Information

School Information

School Name:

Street Address:

City, State, Zip:

School Phone:

School FAX:

Principal's Name:

System or District:

County:

Superintendent Name

Street Address

City, State, Zip

Phone Number:

Fax Number:

Is the school: ☐ Public ☐ Private

Participation Agreement

In order to participate in the EiS supercomputing program, your school must provide the following for a connection to the Alabama Supercomputer Network at the school for use by teachers and students:

- A phone line & modem to the classroom which will be used to connect to the supercomputer network.
- An IBM or compatible or Apple Macintosh personal computer & communication software to serve as the connection.

Each teacher attending the workshops will be provided with an Internet account at no charge. All materials for the workshops will be provided at no cost to the system. Time on the supercomputer will be provided at no cost to the school system. There is an 800 number for schools making long-distance calls.

As the _____ of
(principal, headmaster, superintendent)

_____, I certify that
(school/school system),

_____ and _____
(two teachers)

have accurately responded to this application, and I certify (based on current staffing plans) that they will be teaching at this school during the 1994-95 school year and that they will be allowed to attend a workshop to train teachers in supercomputing, in the development of computational science and/or math projects and Internet resources.

I also certify that access to the Alabama Supercomputer Network will be provided from the school lab if it is not already in place. I understand that the minimum acceptable access to the Alabama Supercomputer Network will require a phone line to a classroom, a modem, and a personal computer (MS-DOS or Macintosh) with terminal emulation software. I also understand that travel for participants, refreshments, materials, and supplies for the workshop, including copies of public domain software demonstrated will be provided by the University of Alabama in Huntsville to the teacher attending the workshop at no charge to my school.

Signature of Principal/Headmaster/Supt. _____ Date _____

Teacher Information/ Background

Teacher Name: _____

Street Address: _____

City, State, Zip: _____

Home Phone: _____

SSN: _____

Areas of Certification: _____

Education

University _____

Degree _____

Year _____

Total Number of Years
Teaching Experience: _____

Total Number of Years
at Current School: _____

Areas in which currently teaching
Grade Level of students being taught: _____

Programming Experience

Please check the best description for your level of experience with the following languages:

Language	None	Minimal	Moderate	Extensive	Have Taught This Course
FORTRAN	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> at _____
Pascal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> at _____
BASIC	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> at _____
C	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> at _____

Other languages or applications: _____

What types of computers have you used, if any? _____

Into which class will you implement this computational science curriculum and Internet resources during the 1994-95 school year? _____

For the EiS Supercomputing program to be successful, participants must return to their schools and involve students and other teachers in the use of Internet, computational science and math projects. Explain why you feel you can be successful in getting other teachers and students involved in computational science and math projects during the 1994-95 school year. Attach additional sheets as necessary.

The establishment of a connection to the Alabama Supercomputer Network will allow participating teachers to become familiar with the equipment and its use prior to its use in the classroom. Please discuss your school's plans to provide a computer and phone line to establish this connection. List the equipment that the school currently has which will meet these needs. Attach additional sheets as necessary.

Explorations in Supercomputing (EiS)

Tishomingo County Magnet High School EiS RTC Introductory Workshop

November 7, 1994

**Lead Teachers:
Bobby Lowrey
Steve Cain**

Agenda

Welcome

Introductions

Overview of EiS Program

What is EiS?

What is an RTC?

Goals

Funding

What is Computational Science?

Overview of State Program

Goals of State Program

Information Superhighway

What is Internet

How do you Connect?

What is an Account or Internet Address?

E-Mail

What is E-mail?

How to Send E-mail

How to Read E-mail

How to Reply to E-mail

How to Save Messages

How to Delete Messages

How to Use Address Book

Lunch

Internet Resources

Mosaic

Cello

Creating Home Pages

FTP Clients

Gopher

Archie

(dial-in access)

DISTRIBUTE TO ALL 9-12 MATH, SCIENCE & COMPUTER PROGRAMMING TEACHERS

TO: Mathematics and Science Teachers, Grades 9-12
FROM: Explorations in (EiS) Program
RE: Free Workshop, Introduction to Computational Science, Supercomputing &
Internet Resources
DATE: September 13, 1994

You are invited to apply for participation in the upcoming workshop, **Introduction to Computational Science, Supercomputing & Internet Resources**, which will be hosted by Tishomingo High School. The date for the workshop is November 7, 1994, from 8:30 am to 3:00 pm. It will be held at:

Tishomingo County High School Training Center
Highway 72 West
Iuka, MS 38852

Dr. Arnold
Executive Director of the Tri-State Education Consortium
(601) 423-7458

This workshop, funded by NASA Marshall Space Flight Center, is jointly sponsored by The University of Alabama in Huntsville, Alabama Supercomputer Authority, and Nichols Research Corporation. The presentation is designed to introduce K-12 teachers to the field of Computational Science. It offers hands-on experience in using supercomputers in the classroom to enhance science and mathematics courses. It also provides an introduction to the world of computer networks which are used to communicate, to investigate, and to exchange class projects with teachers and students around the world via the Internet.

Accounts on the Internet and supercomputer will be provided free to all participants and will remain active and free of charge for as long as you wish to use them in your classroom.

In order to access the Internet from the classroom, each teacher will need a phone line, a 1200 or 2400 baud modem, and a computer to connect to the modem. The materials will run on either a Macintosh or an IBM compatible with a VGA monitor. An 800 toll-free number has been donated by the Tri-State Education Consortium and NASA for use by the schools which do not have local access. *Therefore, if your school has the phone line, modem, and computer in place, there is no cost to your school system for the connection.*

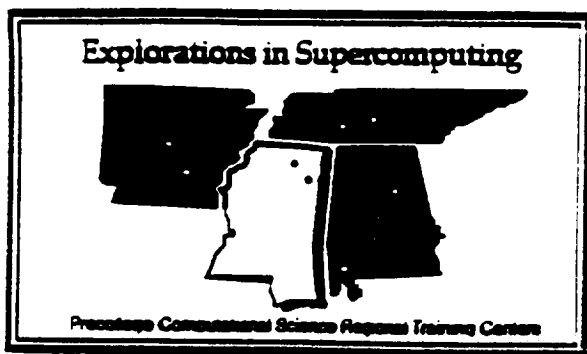
Enrollment is limited to sixteen participants. Registration will occur as applications are received. To ensure your participation, return the attached application **no later than November 3, 1994**. A small stipend will be paid to each participating teacher to assist in covering meals and travel costs.

We look forward to having you participate in the EiS program. If you have any questions please contact one of the persons listed below:

Bobby Lowrey
Highway 72 West
Iuka, MS 38834
(601) 423-3504

Sharon Carruth
686 Discovery Dr.
Huntsville, AL 35806
(205) 971-7434

Ann Hernandez
686 Discovery Dr.
Huntsville, AL 35806
(205) 971-7437



Please return application by November 3 to the following address:

Explorations in Supercomputing

ATTN: Sharon Caruth

686 Discovery Drive

Huntsville, AL 35806

205-971-7434

FAX: 205-971-7491

Workshop will be held at:

Tishomingo High School

Highway 72 West

Iuka, Mississippi 38853 : November 7, 1994

School System Information

School Information

School Name:

Street Address:

City, State, Zip:

School Phone:

School FAX:

Principal's Name:

System or District:

County:

Superintendent Name

Street Address

City, State, Zip

Phone Number:

Fax Number:

Is the school: ☐ Public ☐ Private

Participation Agreement

In order to participate in the EIS supercomputing program, your school must provide the following for a connection to the Alabama Supercomputer Network at the school for use by teachers and students:

- A phone line & modem to the classroom which will be used to connect to the supercomputer network.
- An IBM or compatible or Apple Macintosh personal computer & communication software to serve as the connection.

Each teacher attending the workshops will be provided with an Internet account at no charge. All materials for the workshops will be provided at no cost to the system. Time on the supercomputer will be provided at no cost to the school system. There is an 800 number for schools making long-distance calls.

As the _____ of
(principal, headmaster, superintendent)

_____, I certify that
(school/school systems)

and _____
(two teachers)

have accurately responded to this application, and I certify (based on current staffing plans) that they will be teaching at this school during the 1994-95 school year and that they will be allowed to attend a workshop to train teachers in supercomputing, in the development of computational science and/or math projects and Internet resources.

I also certify that access to the Alabama Supercomputer Network will be provided from the school lab if it is not already in place. I understand that the minimum acceptable access to the Alabama Supercomputer Network will require a phone line to a classroom, a modem, and a personal computer (MS-DOS or Macintosh) with terminal emulation software. I also understand that travel for participants, refreshments, materials, and supplies for the workshop, including copies of public domain software demonstrated will be provided by the University of Alabama in Huntsville to the teacher attending the workshop at no charge to my school.

Signature of Principal/Headmaster/Supt. _____ Date _____

Teacher Information/ Background

Teacher Name: _____

Street Address: _____

City, State, Zip: _____

Home Phone: _____

SSN: _____

Areas of Certification: _____

Education

University _____

Degree _____

Year _____

Total Number of Years
Teaching Experience: _____

Total Number of Years
at Current School: _____

Areas in which currently teaching
Grade Level of students being taught: _____

Programming Experience

Please check the best description for your level of experience with the following languages:

Language	None	Minimal	Moderate	Extensive	Have Taught This Course
FORTTRAN	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> at _____
Pascal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> at _____
BASIC	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> at _____
C	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> at _____

Other languages or applications: _____

What types of computers have you used, if any? _____

Into which class will you implement this computational science curriculum and Internet resources during the 1994-95 school year? _____

For the EiS Supercomputing program to be successful, participants must return to their schools and involve students and other teachers in the use of Internet, computational science and math projects. Explain why you feel you can be successful in getting other teachers and students involved in computational science and math projects during the 1994-95 school year. Attach additional sheets as necessary.

The establishment of a connection to the Alabama Supercomputer Network will allow participating teachers to become familiar with the equipment and its use prior to its use in the classroom. Please discuss your school's plans to provide a computer and phone line to establish this connection. List the equipment that the school currently has which will meet these needs. Attach additional sheets as necessary.



December
Please return application by ~~October~~ 1 to the following address:

Explorations in Supercomputing
ATTN: Sharon Carruth
686 Discovery Drive
Huntsville, AL 35806
205-971-7434
FAX: 205-971-7491

Workshop will be held at:
Adamsville High School
Highway 64
Adamsville, TN 38310

School System Information

School Information

School Name:

Street Address:

City, State, Zip:

School Phone:

School FAX:

Principal's Name:

System or District:

County:

Superintendent Name

Street Address

City, State, Zip

Phone Number:

Fax Number:

Is the school: ☐ Public ☐ Private

Participation Agreement

In order to participate in the EiS supercomputing program, your school must provide the following for a connection to the Alabama Supercomputer Network at the school for use by teachers and students:

- A phone line & modem to the classroom which will be used to connect to the supercomputer network.
- An IBM or compatible or Apple Macintosh personal computer & communication software to serve as the connection.

Each teacher attending the workshops will be provided with an Internet account at no charge. All materials for the workshops will be provided at no cost to the system. Time on the supercomputer will be provided at no cost to the school system. There is an 800 number for schools making long-distance calls.

As the _____ of
(principal, headmaster, superintendent)

_____, I certify that
(school/school system),

_____ and _____
(two teachers)

have accurately responded to this application, and I certify (based on current staffing plans) that they will be teaching at this school during the 1994-95 school year and that they will be allowed to attend a workshop to train teachers in supercomputing, in the development of computational science and/or math projects and Internet resources.

I also certify that access to the Alabama Supercomputer Network will be provided from the school lab if it is not already in place. I understand that the minimum acceptable access to the Alabama Supercomputer Network will require a phone line to a classroom, a modem, and a personal computer (MS-DOS or Macintosh) with terminal emulation software. I also understand that travel for participants, refreshments, materials, and supplies for the workshop, including copies of public domain software demonstrated will be provided by the University of Alabama in Huntsville to the teacher attending the workshop at no charge to my school.

Signature of Principal/Headmaster/Supt. _____ Date _____

DISTRIBUTE TO ALL 9-12 MATH, SCIENCE & COMPUTER PROGRAMMING TEACHERS

TO: Mathematics and Science Teachers, Grades 9-12
FROM: Explorations in (EiS) Program
RE: Free Workshop, Introduction to Computational Science, Supercomputing & Internet Resources
DATE: November 14, 1994

You are invited to apply for participation in the upcoming workshop, **Introduction to Computational Science, Supercomputing & Internet Resources**, which will be hosted by Adamsville High School. The date for the workshop is **December 7, 1994, from 8:30 am to 3:00 pm**. It will be held at:

Adamsville High School
Box 407, Highway 64
Adamsville, TN 38310
(901) 632-3407

This workshop, funded by NASA Marshall Space Flight Center, is jointly sponsored by The University of Alabama in Huntsville, Alabama Supercomputer Authority, and Nichols Research Corporation. The presentation is designed to introduce K-12 teachers to the field of Computational Science. It offers hands-on experience in using supercomputers in the classroom to enhance science and mathematics courses. It also provides an introduction to the world of computer networks which are used to communicate, to investigate, and to exchange class projects with teachers and students around the world via the Internet.

Accounts on the Internet and supercomputer will be provided free to all participants and will remain active and free of charge for as long as you wish to use them in your classroom.

In order to access the Internet from the classroom, each teacher will need a phone line, a 1200 or 2400 baud modem, and a computer to connect to the modem. The materials will run on either a Macintosh or an IBM compatible with a VGA monitor. An 800 toll-free number has been donated by the Tri-State Education Consortium and NASA for use by the schools which do not have local access. *Therefore, if your school has the phone line, modem, and computer in place, there is no cost to your school system for the connection.*

Enrollment is limited to sixteen participants. Registration will occur as applications are received. To ensure your participation, return the attached application no later than **December 1, 1994**. A small stipend will be paid to each participating teacher to assist in covering meals and travel costs.

We look forward to having you participate in the EiS program. If you have any questions please contact one of the persons listed below:

Allen Bruce
P. O. Box 87
Adamsville, TN 38310
(901) 925-8038

Sharon Carruth
686 Discovery Dr.
Huntsville, AL 35806
(205) 971-7434

Ann Hernandez
686 Discovery Dr.
Huntsville, AL 35806
(205) 971-7437

Explorations in Supercomputing (EiS)

Adamsville High EiS RTC Introductory Workshop

December 7, 1994

Lead Teachers:

**Allen Bruce
Brian Jackson
Jean Bryan
Joyce Gilchrist**

Agenda

Welcome

Introductions

Overview of EiS Program

What is EiS?

What is an RTC?

Goals

Funding

What is Computational Science?

Overview of State Program

Goals of State Program

Information Superhighway

What is Internet

How do you Connect?

What is an Account or Internet Address?

Internet Resources

FTP

Gopher

Archie

— Lunch —

E-Mail

What is E-mail?

How to Send E-mail

How to Read E-mail

How to Reply to E-mail

How to Save Messages

How to Delete Messages

How to Use Address Book

Teacher Information/ Background

Teacher Name:

Street Address:

City, State, Zip:

Home Phone:

SSN:

Areas of Certification:

Education

University

Degree

Year

Total Number of Years
Teaching Experience:

Total Number of Years
at Current School:

Areas in which currently teaching
Grade Level of students being taught:

Programming Experience

Please check the best description for your level of experience with the following languages:

Language	None	Minimal	Moderate	Extensive	Have Taught This Course
FORTRAN	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> at _____
Pascal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> at _____
BASIC	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> at _____
C	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> at _____

Other languages or applications:

What types of computers have you used, if any?

Into which class will you implement this computational science curriculum and Internet resources during the 1994-95 school year?

For the EiS Supercomputing program to be successful, participants must return to their schools and involve students and other teachers in the use of Internet, computational science and math projects. Explain why you feel you can be successful in getting other teachers and students involved in computational science and math projects during the 1994-95 school year. Attach additional sheets as necessary.

The establishment of a connection to the Alabama Supercomputer Network will allow participating teachers to become familiar with the equipment and its use prior to its use in the classroom. Please discuss your school's plans to provide a computer and phone line to establish this connection. List the equipment that the school currently has which will meet these needs. Attach additional sheets as necessary.

EiS RTC Participant List

Attachment A–6

School/Attendee List for EIS RTC Introductory Workshops

- | | |
|--|--|
| <p>1 <u>Workshop: Adamsville</u>
Adamsville High School
<i>Mark Massey</i>
Highway 64 West
Adamsville, TN 38310</p> | <p>10 <u>Workshop: Adamsville</u>
Wayne County High School
<i>Gloria Hasting</i>
707 S. Main Street
Waynesboro, TN 38485</p> |
| <p>2 <u>Workshop: Adamsville</u>
Bolivar Central High School
<i>Bonnie M. Breeden</i>
P.O. Box 32, Harris Street
Bolivar, TN 38008</p> | <p>11 <u>Workshop: Biggersville</u>
Alcorn Central High School
<i>Margaret Mathis</i>
8-A Cnty Rd 254
Glen, MS 38846</p> |
| <p>3 <u>Workshop: Adamsville</u>
Bolivar Central High School
<i>Roy Hanna</i>
P.O. Box 32, Harris Street
Bolivar, TN 38008</p> | <p>12 <u>Workshop: Biggersville</u>
Alcorn Central Middle
<i>Jimmy Briggs</i>
8-A CR 254
Glen, MS 38846</p> |
| <p>4 <u>Workshop: Adamsville</u>
Brooks High School
<i>Connie Perry</i>
Route 4, Box 428
Killen, AL 35645</p> | <p>13 <u>Workshop: Biggersville</u>
Biggersville High School
<i>Jim Hall</i>
Rt. #4, Box 349
Corinth, MS 38834</p> |
| <p>5 <u>Workshop: Adamsville</u>
Brooks High School
<i>Vicki Farina</i>
Route 4, Box 428
Killen, AL 35645</p> | <p>14 <u>Workshop: Biggersville</u>
Corinth High School
<i>Vicki Shirley</i>
1310 Harper Road
Corinth, MS 38834</p> |
| <p>6 <u>Workshop: Adamsville</u>
Daniel High School
<i>Catherine Ratliff</i>
Hwy 15 North, P. O. Box 771
New Albany, MS 38652</p> | <p>15 <u>Workshop: Biggersville</u>
Corinth High School
<i>Janice Parish</i>
1310 Harper Road
Corinth, MS 38834</p> |
| <p>7 <u>Workshop: Adamsville</u>
McNairy Central High School
<i>Janet Landreth</i>
493 McNairy Central Road
Selmer, TN 38375</p> | <p>16 <u>Workshop: Biggersville</u>
Deshler High School
<i>Roger Dale Franks</i>
200 N. Commons Street
Tuscumbia, AL 35674</p> |
| <p>8 <u>Workshop: Adamsville</u>
McNairy Central High School
<i>Leigh Anne Sanderson</i>
493 McNairy Central Road
Selmer, TN 38375</p> | <p>17 <u>Workshop: Biggersville</u>
East Corinth Elementary
<i>Patricia Atkins</i>
1200 East Meek St.
Corinth, MS 38834</p> |
| <p>9 <u>Workshop: Adamsville</u>
McNairy Cnty Brd of Ed
<i>Terry Burns</i>
Court House
Selmer, TN 38375</p> | <p>18 <u>Workshop: Biggersville</u>
Fulton Junior High School
<i>Sarah Walker</i>
Fulton, MS 38843</p> |

**School/Attendee List for EiS RTC
Introductory Workshops**

- | | |
|--|--|
| 19 <u>Workshop: Biggersville</u>
Fulton Junior High School
Jerry Wiygul
Fulton, MS 38843 | 28 <u>Workshop: Biggersville</u>
Winfield City High School
Larry Moore
2nd Street East
Winfield, AL 35594 |
| 20 <u>Workshop: Biggersville</u>
Lawrence County High School
Sadie G. McIlwain
1800 Springer Road
Lawrenceburg, TN 38464 | 29 <u>Workshop: Conway</u>
Atkins High School
Vernon Collins
Atkins, AR 72823 |
| 21 <u>Workshop: Biggersville</u>
Lawrence County High School
Terese S. Frazier
1800 Springer Road
Lawrenceburg, TN 38464 | 30 <u>Workshop: Conway</u>
Bald Knob Middle School
Joye Wright
103 West Park
Bald Knob, AR 72010 |
| 22 <u>Workshop: Biggersville</u>
McNairy Central High School
Jill Faulkner
Rt. 2, Box 350
Selmer, TN 38375 | 31 <u>Workshop: Conway</u>
Bald Knob Middle School
Cheri Wright
103 West Park
Bald Knob, AR 72010 |
| 23 <u>Workshop: Biggersville</u>
Middleton High School
Edith Taylor
138 Florida Avenue
Middleton, TN 38052 | 32 <u>Workshop: Conway</u>
Dardanelle High School
Cherie Hall
Route 2, Box 1
Dardanelle, AR 72834 |
| 24 <u>Workshop: Biggersville</u>
Middleton High School
Annette S. Cornelius
138 Florida Avenue
Middleton, TN 38052 | 33 <u>Workshop: Conway</u>
Dover High School
Sharon Murray
College Street
Dover, AR 72837 |
| 25 <u>Workshop: Biggersville</u>
New Albany-Union County
Richard Hartley
203 Highway 15 North
New Albany, MS 38652 | 34 <u>Workshop: Conway</u>
Dover High School
Markeeta Roberts
College Street
Dover, AR 72837 |
| 26 <u>Workshop: Biggersville</u>
Tupelo High School
Amy Burks
2500 Cliff Gookin Blvd.
Tupelo, MS 38801 | 35 <u>Workshop: Conway</u>
Greenbrier High School
Beth Hartwick
72 Green Valley Drive
Greenbrier, AR 72058 |
| 27 <u>Workshop: Biggersville</u>
Wilson High School
Matt Bohon
Route 5, Box 111
Florence, AL 35630 | 36 <u>Workshop: Conway</u>
Mayflower Elementary/Middle
Debbie Wammack
Hwy 89 and Old Sandy Rd.
Mayflower, AR 72106 |

**School/Attendee List for EIS RTC
Introductory Workshops**

- | | |
|--|---|
| 37 <u>Workshop:</u> Conway
Mayflower High School
Barbara Graham
P.O. Box 127
Mayflower, AR 72106 | 46 <u>Workshop:</u> DeValls Bluff
Riverview Jr. High
Leta Pierson
810 Raider Drive
Searcy, AR 72143 |
| 38 <u>Workshop:</u> Conway
Perryville High School
Carol Adams
803 N. Ash
Perryville, AR 72126 | 47 <u>Workshop:</u> DeValls Bluff
Riverview School
Mona Diles
701 West Dandridge
Kensett, AR 72082 |
| 39 <u>Workshop:</u> Conway
Perryville High School
Kate Cole
803 N. Ash
Perryville, AR 72126 | 48 <u>Workshop:</u> DeValls Bluff
Weiner High School
Ina Raye Hurdle
P.O. Box 408
Weiner, AR 72479-040 |
| 40 <u>Workshop:</u> Conway
Russellville High School
Wanda Heflin
2203 S. Knoxville
Russellville, AR 72811 | 49 <u>Workshop:</u> DeValls Bluff
White Hall High School
Danny Young
700 Bulldog Drive
White Hall, AR 71602 |
| 41 <u>Workshop:</u> DeValls Bluff
Beebe High School
Steve Colbert
1201 W. Center
Beebe, AR 72012 | 50 <u>Workshop:</u> Tishomingo
Adamsville Jr/Sr High
Joyce P. Gilchrist
Hwy. 64, P. O. Box 407
Adamsville, TN 38310 |
| 42 <u>Workshop:</u> DeValls Bluff
Bradford High School
Helen McGee
P.O. Box 60
Bradford, AR 72020 | 51 <u>Workshop:</u> Tishomingo
Adamsville Jr/Sr High
Marilyn J. Sherron
Hwy. 64, P. O. Box 407
Adamsville, TN 38310 |
| 43 <u>Workshop:</u> DeValls Bluff
Cabot High School
Michael A. Calvert
504 E. Locust
Cabot, AR 72023 | 52 <u>Workshop:</u> Tishomingo
Avalon Middle School
Leella S. Holt
1400 Avalon Avenue
Muscle Shoals, AL 35661 |
| 44 <u>Workshop:</u> DeValls Bluff
Lakewood Middle School
Pat McDonald
2300 Lakeview Rd.
No. Little, AR 72116 | 53 <u>Workshop:</u> Tishomingo
Belmont High School
Jerry Hughes
P. O. Box 250
Belmont, MS 38827 |
| 45 <u>Workshop:</u> DeValls Bluff
Lonoke High School
Eunice Hall
501 W. Academy St.
Lonoke, AR 72086 | 54 <u>Workshop:</u> Tishomingo
Chester County
Fred Brown
133 E. Main Street
Henderson, TN 38340 |

**School/Attendee List for EiS RTC
Introductory Workshops**

- 55 Workshop: Tishomingo
Coffee High School
Lydia J. Nesmit
648 N. Cherry Street
Florence, AL 35630
- 56 Workshop: Tishomingo
Colbert County High School
Jackie B. Norton (Mr.)
P. O. Box 429
Leighton, AL 35646
- 57 Workshop: Tishomingo
Deshler High School
Travis Burgess
200 N. Commons Street
Tuscumbia, AL 35674
- 58 Workshop: Tishomingo
Deshler High School
Claudia Smith
200 N. Commons Street
Tuscumbia, AL 35674
- 59 Workshop: Tishomingo
Deshler High School
Carol C. Cole
200 N. Commons Street
Tuscumbia, AL 35674
- 60 Workshop: Tishomingo
Hamilton High School
Cully Hartsell
P. O. Box 1508
Hamilton, AL 35570
- 61 Workshop: Tishomingo
Itawamba Agricultural High
Doris Nail
602 W. Hill Street
Fulton, MS 38843
- 62 Workshop: Tishomingo
Phillips High School
Chris Gillum (Mr.)
Route 1, Box 3
Bear Creek, AL 35543
- 63 Workshop: Tishomingo
Tishomingo County High
Jill Brooks
701 Highway 72
Iuka, MS 38852

EiS Participant Evaluations of RTC
Workshops

Attachment A–7

ASN Evaluation Form/Comment Summary

QUESTIONS	Adamsville - 10 Participants* -					Biggersville - 18 Participants* -					Conway - 12 Participants -					DeValls Bluff - 9 Participants -					Tishomingo - 14 Participants* -						
	Strong Disagree		Strong Agree			Strong Disagree		Strong Agree			Strong Disagree		Strong Agree			Strong Disagree		Strong Agree			Strong Disagree		Strong Agree				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5		
(A) From this training, I gained new knowledge and skills.			1	2	6			4	1	9		1		1	10				1	8				1	1	6	5
(B) The format of the sessions was well-designed.			1	2	6			5	1	8		1		3	8				1	8				2	3	6	2
(C) The program presenters were interesting and well-prepared.				3	6			4	1	9				4	7				1	8				4	7	2	
(D) I was satisfied with the quality/amount of interaction between the presenters and the participants.			1	4	4			2	3	9	1			1	10				1	8	1				3	8	
(E) The materials (A-V, handout, etc.) were of good quality.			1	3	5				4	10	1			2	9				1	8				1	5	7	
(F) The concepts presented in the sessions were practical and useful.	1	1	2	5				2	3	9			1	2	9				1	8	1	1			7	4	
(G) Overall, I was satisfied with the quality of the sessions.			1	3	5			4	1	9		1		1	10				2	7			1	1	6	5	
TOTAL	0	1	6	19	37	0	0	21	14	63	2	3	1	14	63	0	0	0	8	55	2	5	10	40	33		
PERCENTAGE (%)	0	2	9	30	59	0	0	22	14	64	2	4	1	17	76	0	0	0	13	87	2	6	11	44	37		

*Not all participants turned in evaluation form

Number of Responses to Ratings...	1	2	3	4	5
Question (A):	0	2	6	11	38
Question (B):	0	3	9	13	32
Question (C):	0	0	8	16	32
Question (D):	2	0	3	12	39
Question (E):	1	0	2	15	39
Question (F):	1	2	4	15	35
Question (G):	0	2	6	13	36

Percentages (%) of Responses to Question...	1	2	3	4	5
Question (A):	0	3	11	19	67
Question (B):	0	5	16	23	56
Question (C):	0	0	14	29	57
Question (D):	4	0	5	21	70
Question (E):	2	0	4	26	68
Question (F):	2	4	7	26	61
Question (G):	0	3	11	23	63

Adamsville Comments:***I liked ...:***

- "FTP session"
- "the time allowed to search on our own"
- "being able to DO the work. I learn by doing. This was FUN!"
- "hands-on practice"
- "the extensive hands-on and the freedom to try various telnet and gopher choices with assistance as needed."
- "everything"

I would have preferred ...:

- "some specific applications to subject area"
- "more subjects related to my area and more time to browse through it."
- "nothing different!"
- "more time."

Other comments:

- "The presenters were well prepared. Thoroughly enjoyed sessions."
- "Excellent."

What additional workshops would you like for the RTC to offer?

- "More FTP, Archie, Gopher, WWW. Thanks for the invitation and hospitality. We need more seminars like this one for our teachers."
- "The eight librarians in our county need this training: -FTP, -Archie, -Gopher, -WWW. A January session would be GREAT."
- "I would like to see workshops on specific subject areas."

Biggersville Comments:***I liked ...:***

- "the 'hands-on' work"
- "the professionalism & the welcome feeling—very strong workshop"
- "the one-on-one touch"
- "actually trying out the concepts (hands-on)"
- "hands-on"
- "hands-on"
- "hands-on training, not just telling about how to do this!"
- "the introduction to the future of computing"
- "very good"
- "hands-on experience"

I would have preferred ...:

- "more practice in finding and retrieving files"
- "using the actual 'code' for my accessing network as I will do in the future"
- "to already have a modem and phone line so I could get right into the process"

Other comments:

- "I really think this should be a part of certain teachers of the Tri-State area inservice each year"
- "I thought that it was informative"
- "Need to receive continued support"
- "it was great!"

What additional workshops would you like for the Consortium to offer?

- "More Internet"
- "More hands-on Internet"

In addition to workshops, what can the Consortium do to assist you and/or your school district?

- "Keep up good work!"

If you would like to be considered to serve as a committee member, ...

Amy Burks, Tupelo H.S., Tupelo, MS

Conway Comments:

I liked ...:

- "hands-on"
- "the hands-on chances to do the work ourselves!"
- "the hands-on experience and helpful instructors"
- "the detailed information and taking time to work through the process a step at a time"
- "the atmosphere provided felt very comfortable. Very good! Enjoyed!"
- "the chance to actually work with the network and visit with other teachers about computers in our schools"
- "the hands-on experience I received from the workshop"
- "the small clan atmosphere and hands-on learning; the information--it's new & exciting"
- "the willingness to help of the presenters; everyone was very nice & helpful"
- "the basic information did not assume that we knew about Internet or Windows"
- "ratio of participants to computers, & presenters"
- "Mosaic"

I would have preferred ...:

- "more days of this!"
- "more time"

ASN Evaluation Form/Comment Summary

- "the chance to work individually on a computer. I didn't want to slow anyone down but at times I felt lost because my partner was so much more knowledgeable than I"
 - "more time"
 - "more time"
 - "more on downloading by DOS"
 - "the hands-on chances to do the work ourselves!"
- Other comments:*
- "I gained a lot of information"
 - "Thank you for the chance to see all this"
 - "I don't like to rate all 5's on anything, but I really enjoyed this"
- What additional workshops would you like for the RTC to offer?*
- "Our school would like to attend 2 week training in summer"
 - "My school would like to have some of its teachers trained in the summer program"
 - "Ask me again when I know what I need to learn first!"
 - "I am new to the network and am interested in other workshops"
 - "Planning lessons and projects--How to utilize Internet into classroom work--I'd like for all areas to see this and how easy this can be"
 - "How to integrate into the curriculum of all grades--How to use examples, E-mail, Mosaic workshops"
 - "More, more detail"
 - "More on Internet--How to get started with Internet in your school"
 - "Putting on files, creating files and troubleshooting"

DeValls Bluff Comments:

I liked ...:

- "the hands-on use of the applications available"
 - "small group interaction; understanding of the presenters to needs of participants; content is very appropriate; length of presentation is appropriate"
 - "the hands-on participation"
 - "the presenters, hands-on work"
 - "the hands-on"
 - "hands-on activities"
 - "being able to use a computer myself as we learned"
- I would have preferred ...:*
- "to have had a longer workshop (more time)"
 - "more time on computer"

Other comments:

- "Very informative--very interesting"
 - "I would be interested in participating in the program--attending the summer workshop and possibly our school becoming a site"
 - "I want to come to Alabama"
- What additional workshops would you like for the RTC to offer?*
- "Network design, topologies, running wire, installing cards, stripping wire, etc"
 - "How to get more 'freebie' workshops like Carolyn attended in Huntsville--her school got 8 computers, etc."
 - "Intensive training for longer period of time"
 - "Some more particular things on Internet that are useful to students"

Tishomingo Comments:

I liked

- "the idea of presenters being teachers at our level."
- "the handbook given to us."
- "courtesy and helpfulness of the instructors and staff."
- "interest of presenters."
- "the hands-on activities; introduction to new concept."
- "the hands-on activities."
- "exposure to possibilities."
- "being able to use a machine as instruction was given."
- "the learning environment, small class."
- "the e-mail session and the general things I pick-up."
- "the opportunity to become part of the bulletin board and Internet."

I would have preferred

- "more on how to technically access Internet."
- "more time, more one-on-one tutoring."
- "the computers to work--"Welcome to the Wonderful World of Computers'."
- "to work on the Internet we will be using."
- "2 days instead of 1."
- "more time to look at Cello and Mosaic."
- "more direct answers to my questions about my particular situation."
- "information designed for use by individuals using a modum hookup."

Other comments:

- "Compress into morning session with actual use of Internet in afternoon using capabilities of Tri-State Center. My supt.'s comment was "This your ___? ___ at Tri-State"(Couldn't read-typist)
- "I really appreciate the free link-up opportunities and willingness for continuing help."
- "Good session."
- "Not exactly what I thought it would be from reading the info I received concerning the meeting."
- "The workshops need to be geared toward what participants will be able to do when they return to their respective schools."

What additional workshops would you like for the RTC to offer?

- "Using Supercomputer, not info services (Internet)."
- "More on Internet resources."
- "TECH-Prep, Prodigy."
- "Adding movement to the classroom (visual aids)."
- "File transfer."
- "Continued work in the area."
- "More on using Internet."

In addition to workshops, what can the Consortium do to assist you and/or your school district?

- "Just keep us informed about workshops and other helpful things."
- "Help in tying in computers to TSEI network."
- "Continue to offer technological workshops and keep us informed on the dates and subjects."

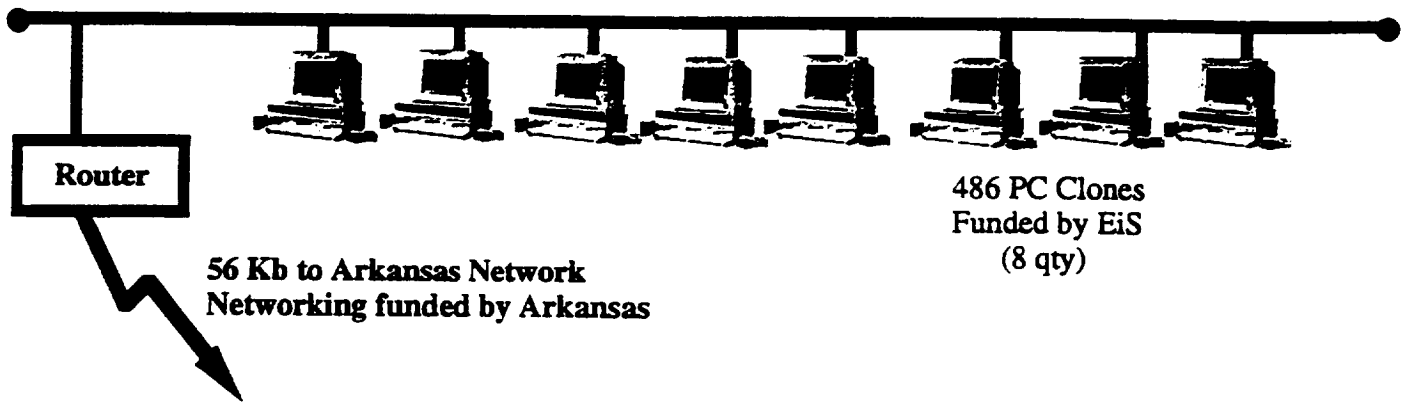
If you would like to be considered to serve as a committee member, ...

Travis Burgess, Deshler High School, Tuscumbia, AL

EiS Network Configurations

Attachment A–8

Conway High School * Conway, Arkansas



Computer Science Lab



Nichols Research Corporation
340 S. Memorial Parkway
O. Box 400002
Huntsville, AL 35815-1502
(205)883-1140 FAX (205)882-3422

14 December 1994
NRC-RP-0141
0926

Conway High School
2220 Prince Street
Conway, Arkansas 72032

Attention: Mr. John Tyler, Principal

Subject: Transfer of Explorations in Supercomputing (EiS) Program
Computer/Networking Equipment and Software

References: A. Subgrant SUB94-087 Between The University of Alabama in
Huntsville and Alabama Supercomputer Authority

B. NASA Research Grant Handbook (NHB 5800.1C)

Dear Mr. Tyler:

Attached is a fully executed copy of the property receipt for computer/networking equipment and software transferred to your school under the EiS Program.

These items were purchased under Reference A and vest with the participating school in accordance with Reference B.

If you have any questions, please contact the undersigned at (205) 971-7436.

Sincerely,

A handwritten signature in black ink, appearing to read "Rudolph A. Pitcher", with a long horizontal flourish extending to the right.

Rudolph A. Pitcher
Contract Administrator

encl: 2 as

cc: Debra Searcy/ASA
Paul Duggan/NRC
Sharon Carruth/NRC
Brian Stewart/NRC

Explorations in Supercomputing 1994 Property Receipt

Assigned School:

Conway High School
Conway, Arkansas 72032

The following is a list of equipment that is transferred to your school under the 1994 Explorations in Supercomputing (EiS) program:

- Eight (8) Tagram personal computers with monitor, mouse and keyboard
- Eight (8) Ethernet cards
- One(1) copy of Microsoft Office (standard) and seven (8) licenses

I understand that all the assigned equipment has been received and accounted for and maintenance and support of this equipment is the responsibility of the receiving school.

Liza Allen
Teacher

12-1-94
Date

John Tyler
Principal

12-1-94
Date

Rudolph A. Pitcher
Rudolph A. Pitcher
Contract Administrator
Nichols Research Corporation

12/14/94
Date

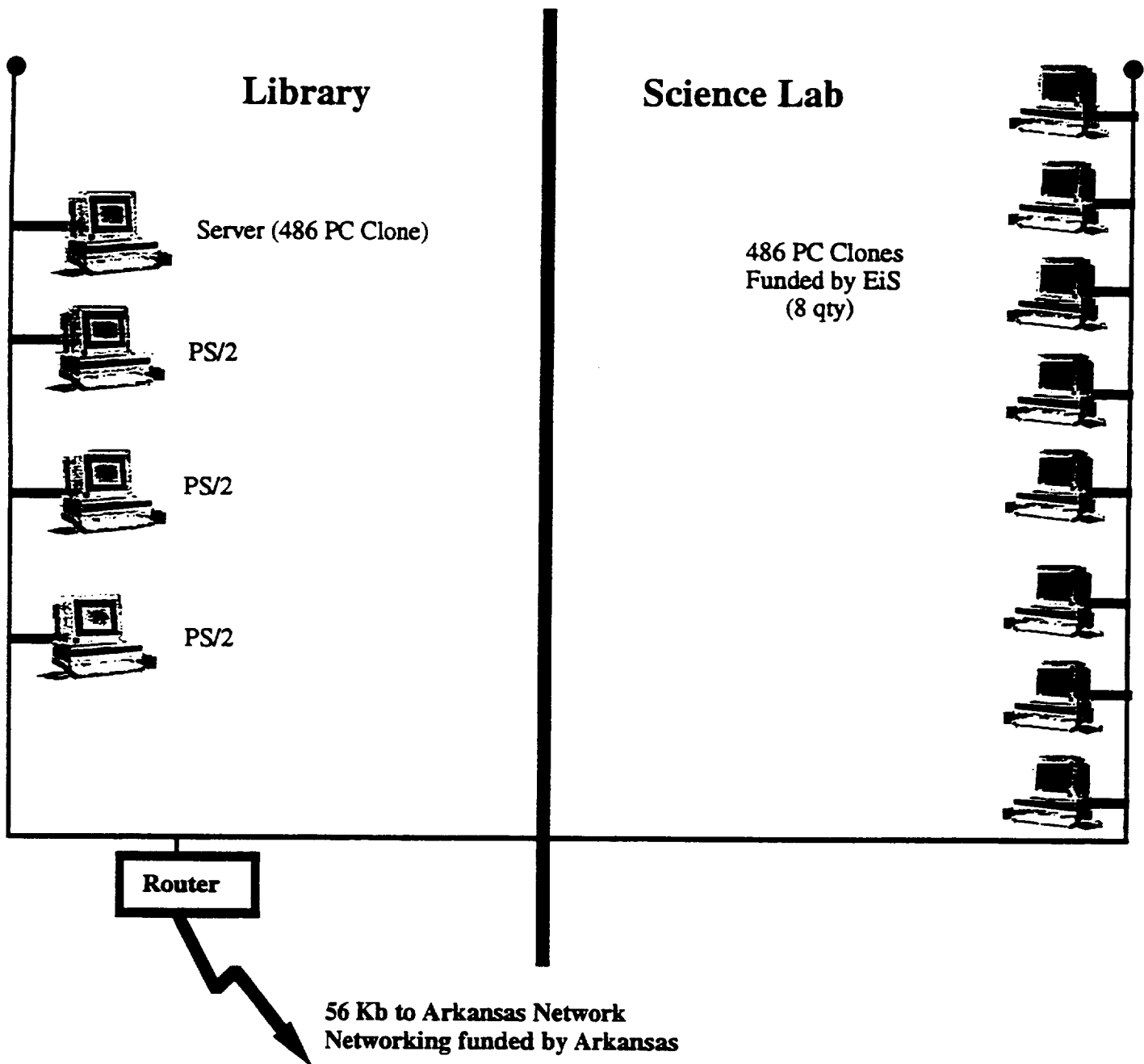
1994 EIS Equipment Serial Number Log

<u>School</u>	<u>CPU S/N</u>	<u>Monitor S/N</u>	<u>Ethernet S/N</u>
Conway	289453103U	PM1448X00103737	40205873
Conway	2894531027	PM1448X00103688 ⁷¹⁷	40205884
Conway	289453103K	PM1448X00103604	40205881
Conway	2894531047	PM1448X0013289	(40205880)*
Conway	2894531028	PM1448X00103699	40205869
Conway	289453102X ⁹	PM1448X00103736	40205884 ⁷¹
Conway	289453102C	PM1448X00103603	40205886
Conway	2894531048	PM1448X00103689 ⁷⁰⁰	40205888

* This ethernet card was different from the other seven. This is the information that we found on the card:

SMC
 ULTRA 8216C
 KIB719559
 01-600465-000

DeValls Bluff High School * DeValls Bluff, Arkansas





Nichols Research Corporation
240 S. Memorial Parkway
P.O. Box 400002
Huntsville, AL 35815-1502
(25)883-1140 FAX (205)882-3422

13 October 1994
NRC-RP-0122
0926

DeValls Bluff High School
P.O. Box 298
U.S. Hwy 70
DeValls Bluff, Arkansas 72041

Attention: Mr. Charles Eads, Principal

Subject: Transfer of Explorations in Supercomputing (EiS) Program
Computer/Networking Equipment and Software

References: A. Subgrant SUB94-087 Between The University of Alabama in
Huntsville and Alabama Supercomputer Authority

B. NASA Research Grant Handbook (NHB 5800.1C)

Dear Mr. Eads:

Attached is a fully executed copy of the property receipt for computer/networking equipment and software transferred to your school under the EiS Program.

These items were purchased under Reference A and vest with the participating school in accordance with Reference B.

If you have any questions, please contact the undersigned at (205) 971-7436.

Sincerely,

A handwritten signature in cursive script, appearing to read "Rudolph A. Pitcher".

Rudolph A. Pitcher
Contract Administrator

encl: 2 as

cc: Debra Searcy/ASA
Paul Duggan/NRC
Sharon Carruth/NRC
Brian Stewart/NRC

**Explorations in Supercomputing 1994
Property Receipt**

Assigned School:

DeValls Bluff High School
P.O. Box 298
U.S. Hwy 70
DeValls Bluff, Arkansas 72041

The following is a list of equipment that is transferred to your school under the 1994 Explorations in Supercomputing (EiS) program:

- Eight (8) Tagram personal computers with monitor, mouse and keyboard
- Eight (8) Ethernet cards
- One(1) copy of Microsoft Office (standard) and seven (8) licenses

I understand that all the assigned equipment has been received and accounted for and maintenance and support of this equipment is the responsibility of the receiving school.

Mary Jo Gray
Teacher

Sept. 22, 1994.
Date

Charles Eads
Principal

9-23-94
Date

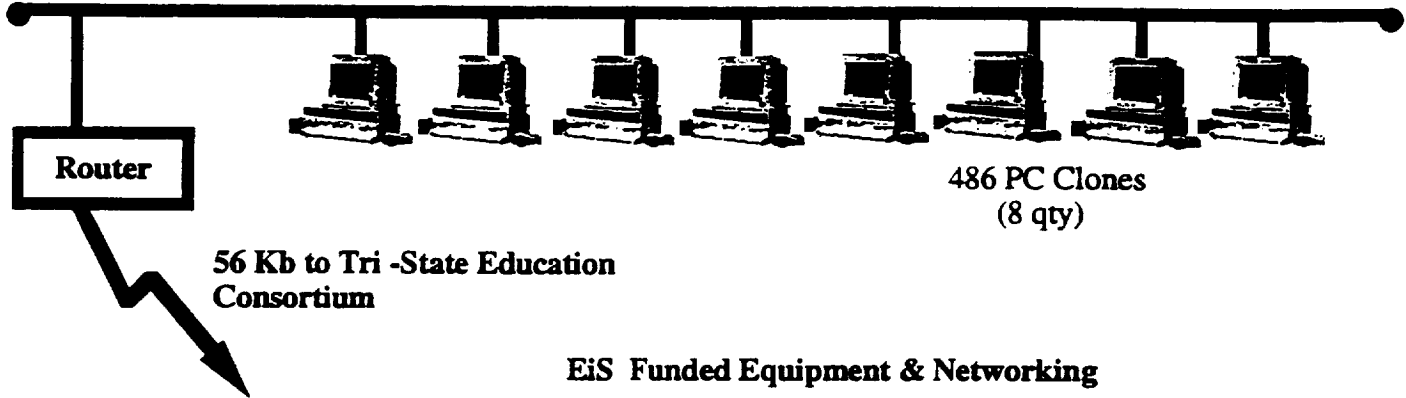
Rudolph A. Pitcher
Rudolph A. Pitcher
Contract Administrator
Nichols Research Corporation

10/13/94
Date

1994 EIS Equipment Serial Number Log

<u>School</u>	<u>CPU S/N</u>	<u>Monitor S/N</u>	<u>Ethernet S/N</u>
DeValls	2894531046	PM1448X00103740	40205887
DeValls	289453104C	PM1448X00103597	40205874
DeValls	289453103N	PM1448X00103721	40205870
DeValls	2894531030L	PM144813352	40205865
DeValls	289453102B	PM1448X00103738	40205875
DeValls	2894531049	PM144813384	40205885
DeValls	2894531040	PM1448X00103742	40205883
DeValls	28945	PM1448X00103717	4020

Biggersville High School * Biggersville, Mississippi



Computer Science Lab



Nichols Research Corporation
240 S. Memorial Parkway
P.O. Box 400002
Huntsville, AL 35815-1502
(256) 883-1140 FAX (205) 882-3422

31 August 1994
NRC-RP-0107
0926

Biggersville High School
Route 4, Box 349
Corinth, MS 38834

Attention: Mr. Jimmy Thompson, Principal

Subject: Transfer of Explorations in Supercomputing (EiS) Program
Computer/Networking Equipment and Software

References: A. Subgrant SUB94-087 Between The University of Alabama in
Huntsville and Alabama Supercomputer Authority

B. NASA Research Grant Handbook (NHB 5800.1C)

Dear Mr. Thompson:

Attached are fully executed copies of property receipts for computer/networking equipment and software transferred to your school under the EiS Program.

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If you have any questions, please contact the undersigned at (205) 971-7436.

Sincerely,

A handwritten signature in black ink, appearing to read "Rudolph A. Pitcher".

Rudolph A. Pitcher
Contract Administrator

encl: 2 as

cc: Debra Searcy/ASA
Paul Duggan/NRC
Sharon Carruth/NRC
Brian Stewart/NRC

Explorations in Supercomputing 1994 Property Receipt

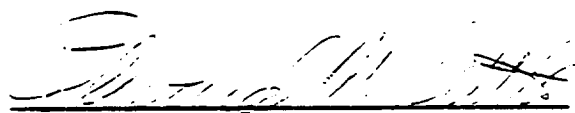
Assigned School:

Biggersville High School
Route 4, Box 349
Corinth, MS 38834

The following is a list of equipment that is transferred to your school under the 1994 Explorations in Supercomputing (EiS) program:

- Eight (8) Tagram personal computers with monitor, mouse and keyboard
- Eight (8) Ethernet cards
- One(1) copy of Microsoft Office(Standard) and seven (8) licenses

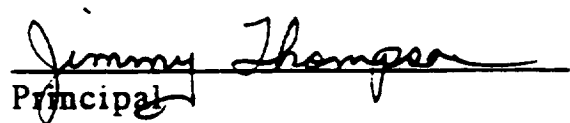
I understand that all the assigned equipment has been received and accounted for and maintenance and support of this equipment is the responsibility of the receiving school.



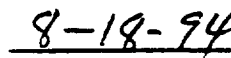
Teacher



Date



Principal



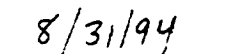
Date



Rudolph A. Pitcher

Contract Administrator

Nichols Research Corporation



Date

1994 EIS Equipment Serial Number Log

<u>School</u>	<u>CPU S/N</u>	<u>Monitor S/N</u>	<u>Ethernet S/N</u>
Biggersville	289453103P	PM144813269	40205877
Biggersville	2894531025	PM1448X00103595	40205892
Biggersville	2894531028	PM144813468	40205878
Biggersville	289453103Q	PM1448X00103728	40205882
Biggersville	289453104E	PM1448X00103692	40205876
Biggersville	2894531024	PM1448X00103714	40205879
Biggersville	28945	PM1448X00103683	4020
Biggersville	289453104B	PM1448X00103592	4020586

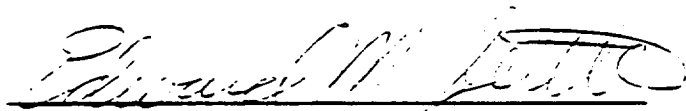
**Explorations in Supercomputing 1994
Property Receipt**

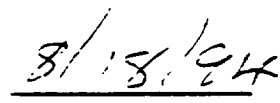
Assigned school:
Biggersville High School
Route 4, Box 349
Corinth, MS 38834

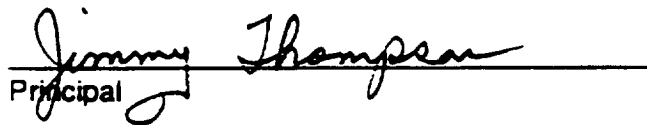
The following is a list of networking equipment that is transferred to your school under the 1994 Explorations in Supercomputing (EIS) program:

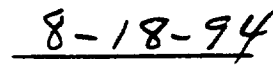
- Two Cisco 2500 series routers, with V.35 cable assemblies
Serial numbers: 25036077, 25036073
- Two Adtran 56/64 CSU-DSU units
Serial numbers: B405B2819, B405B2703
- Three NET7 Network Surge Protectors
- One 10Base2 to 10Base5 Transceiver
- Assorted 10Base2 cable assemblies and connectors


I understand that all of the assigned equipment has been received and accounted for.

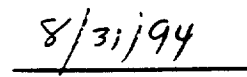

Teacher


Date

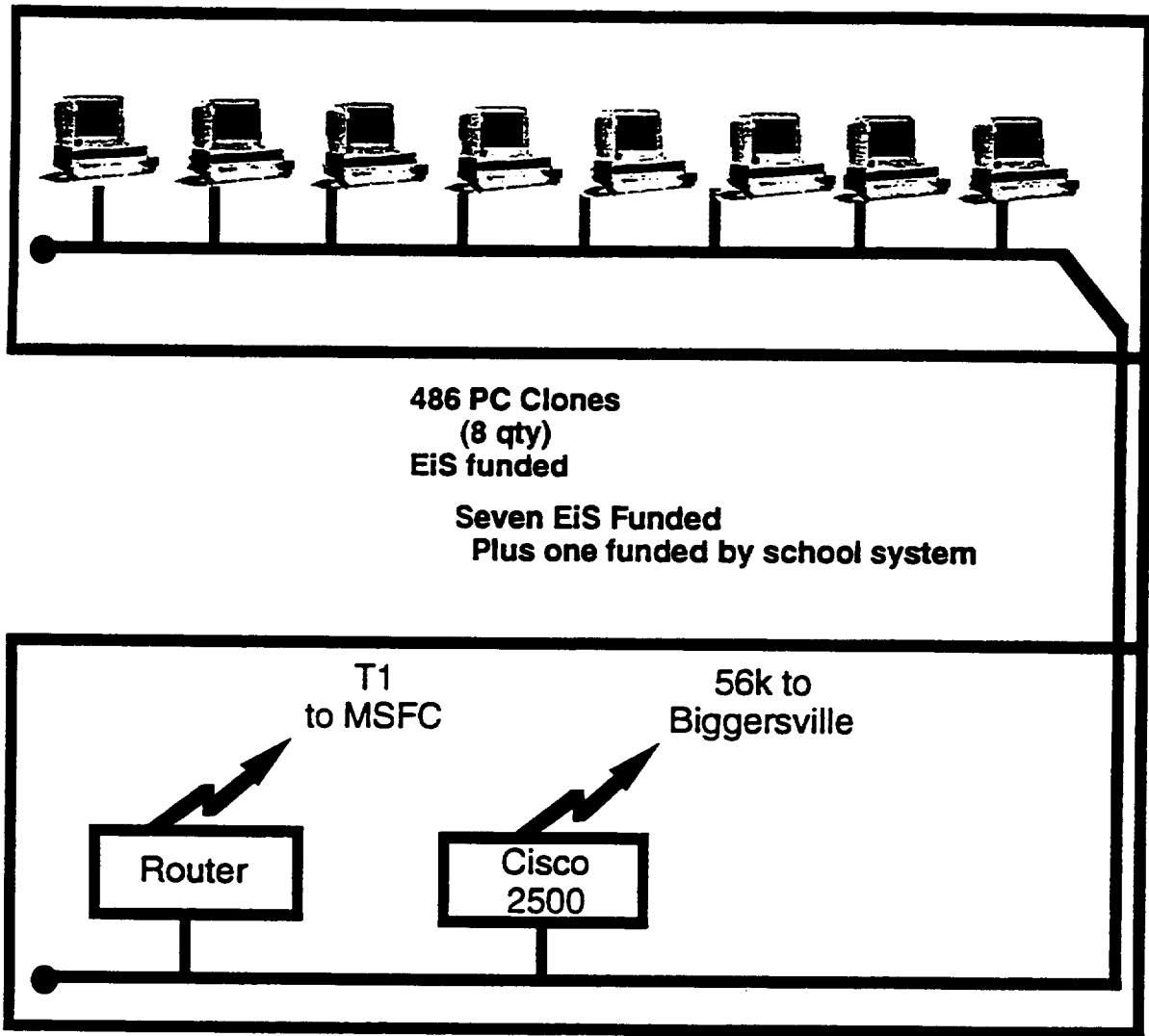

Principal


Date


Rudolph A. Pitcher
Contract Administrator
Nichols Research Corporation


Date

Tishomingo High School * Iuka, Mississippi



Underground
conduit
~150 Feet

TSEC



Nichols Research Corporation
40 S. Memorial Parkway
P.O. Box 400002
Huntsville, AL 35815-1502
(205) 883-1140 FAX (205) 882-3422

13 September 1994
NRC-RP-0112
0926

Tishomingo County High School
701 Highway 72
Iuka, Mississippi 38852-7257

Attention: Mr. Robert Haggard, Principal

Subject: Transfer of Explorations in Supercomputing (EiS) Program
Computer/Networking Equipment and Software

References: A. Subgrant SUB94-087 Between The University of Alabama in
Huntsville and Alabama Supercomputer Authority

B. NASA Research Grant Handbook (NHB 5800.1C)

Dear Mr. Haggard:

Attached are fully executed copies of property receipts for computer/networking equipment and software transferred to your school under the EiS Program.

These items were purchased under Reference A and vest with the participating school in accordance with Reference B.

If you have any questions, please contact the undersigned at (205) 971-7436.

Sincerely,

A handwritten signature in cursive script, appearing to read 'Rudolph A. Pitcher'.

Rudolph A. Pitcher
Contract Administrator

encl: 2 as

cc: Debra Searcy/ASA
Paul Duggan/NRC
Sharon Carruth/NRC
Brian Stewart/NRC

Explorations in Supercomputing 1994 Property Receipt

Assigned School:

Tishomingo High School
Route 1
Iuka, MS 38852

The following is a list of equipment that is transferred to your school under the 1994 Explorations in Supercomputing (EiS) program:

- Seven (7) Tagram personal computers with monitor ,mouse and keyboard
- Seven (7) Ethernet cards
- One(1) copy of Microsoft Office and seven (7) licenses

I understand that all the assigned equipment has been received and accounted for and maintenance and support of this equipment is the responsibility of the receiving school.

Bobley W. Fournier
Teacher

9/6/94
Date

Robert Haggard
Principal

9/6/94
Date

Rudolph A. Pitcher
Rudolph A. Pitcher
Contract Administrator
Nichols Research Corporation

9/13/94
Date

1994 EIS Equipment Serial Number Log

<u>School</u>	<u>CPU S/N</u>	<u>Monitor S/N</u>	<u>Ethernet S/N</u>
Tishomingo	289453105L	PM1448X00103682	40205891
Tishomingo	2894531045	PM1448X00103599	40205864
Tishomingo	28935110DB	PM1448X00103716	40205867
Tishomingo	2894531048	PM1448X00103590	40205863
Tishomingo	289453103T	PM1448X00103598	40114479
Tishomingo	289453103M	PM1448 8 8	40205872
Tishomingo	2894531023	PM144808403	40205868

**Explorations in Supercomputing 1994
Property Receipt**

Assigned school:
Tishamingo County High School
Highway 72 West
Iuka, MS

The following is a list of networking equipment that is transferred to your school under the 1994 Explorations in Supercomputing (EIS) program:

- One Lancastr 2-Port 10Base2 Repeater
- One Lancastr Parallel Port Ethernet Adapter
- 10Base2 Cable Installation to TSEI
- Assorted 10Base2 cable assemblies and connectors

I understand that all of the assigned equipment has been received and accounted for.

Bobby W. Jarey
Teacher

9/6/94
Date

Robert Haggard
Principal

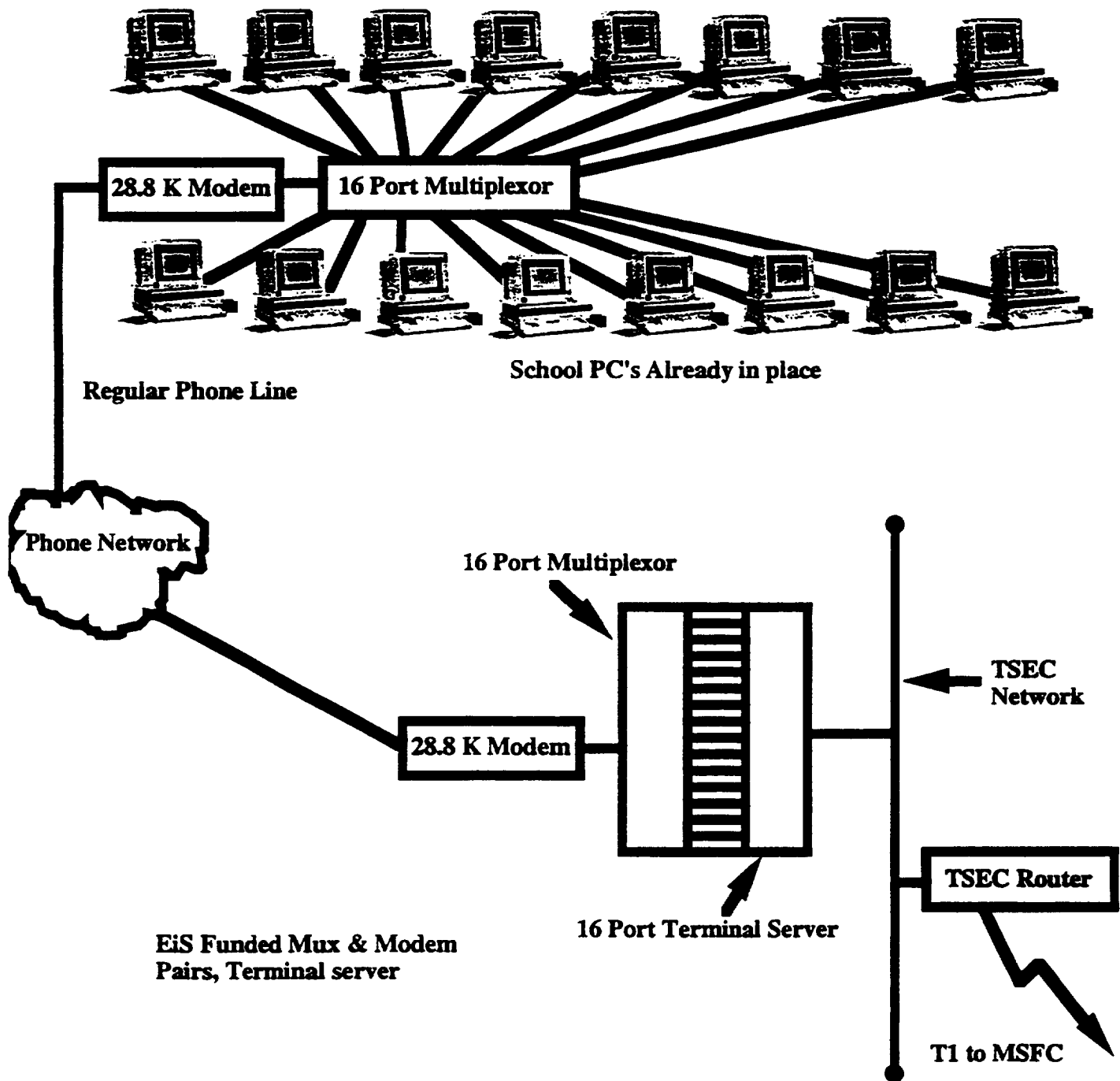
9/6/94
Date

Rudolph A. Pitcher
Rudolph A. Pitcher
Contract Administrator
Nichols Research Corporation

9/13/94
Date

Adamsville High School * Adamsville, Tennessee

Computer Lab





Nichols Research Corporation
40 S. Memorial Parkway
P. Box 400002
Huntsville, AL 35815-1502
(256)883-1140 FAX (205)882-3422

4 October 1994
RP 94-0116
0926

Adamsville High School
Box 407, Highway 64
Adamsville, TN 38310

Attention: Mr. Mark Massey, Principal

Subject: Transfer of Explorations in Supercomputing (EiS) Program
Computer/Networking Equipment and Software

References: A. Subgrant SUB94-087 Between The University of Alabama in
Huntsville and Alabama Supercomputer Authority

B. NASA Research Grant Handbook (NHB 5800.1C)

Dear Mr. Massey:

Attached is a fully executed copy of the property receipt for the funds and
computer networking equipment transferred to your school under the EiS
Program.

These items were purchased under Reference A and vest with the participating
school in accordance with Reference B.

If you have any questions, please contact the undersigned at (205) 971-7436.

Sincerely,

A handwritten signature in black ink, appearing to read "Rudolph A. Pitcher".

Rudolph A. Pitcher
Contract Administrator

encl: as

cc: Debra Searcy/ASA
Paul Duggan/NRC
Sharon Carruth/NRC
Brian Stewart/NRC

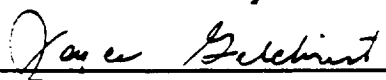
**Explorations in Supercomputing 1994
Property Receipt**

Assigned school:
Adamsville High School
Adamsville, TN

The following is a list of networking equipment and funds that are transferred to your school under the 1994 Explorations in Supercomputing (EiS) program:

- One RAD STM-16 Statistical Multiplexor (at Adamsville)
- One DSI 9624E Modem (at Adamsville)
- One RAD STM-16 Statistical Multiplexor (at TSEI)
- One DSI 9624E Modem (at TSEI)
- One Cisco CS-516 Terminal Server (at TSEI)
- One Allied Telesis AT-MX10S Ethernet Transceiver (at TSEI)
- A check for \$2600.00 to be used to pay for EiS telecommunication charges
- Assorted data cable assemblies and connectors

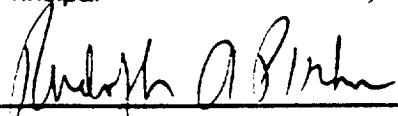
I understand that all of the above has been received and accounted for.


Teacher

10-4-94
Date


Principal

10-4-94
Date


Rudolph A. Pitcher
Contract Administrator
Nichols Research Corporation

10/5/94
Date